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HELIOTYPES FROM PHOTOGRAPHS OF CASE NO. II.

[The figures are reversed, making the right arm appear as the left.]

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# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## EXCISION OF THE ELBOW-JOINT, SHOWING RESULTS. FROM A SERIES OF TWENTY-ONE CASES OPERATED ON AT THE MASSACHUSETTS GENERAL HOSPITAL.

BY H. H. A. BEACH, M. D.,

*Surgeon to Out-Patients.*

THIS collection of cases, comprising all, fatal as well as successful, which have occurred in the hospital service of Dr. R. M. Hodges, during a period of ten years, is reported for the purpose of showing the ultimate and excellent results of excision of the elbow when recovery takes place, and the advantages of a single straight incision in its performance. This method, largely avoiding the cross-cutting of any tissues, allows "the connection of the triceps-extensor tendon, with the investing aponeurosis of the arm and fore-arm, to be preserved almost intact. An attachment for the muscle is thus retained which diminishes, to a certain extent, the loss of power following its unavoidable separation from the olecranon."<sup>1</sup> Transverse incision of the integuments, even though the above mentioned connection is maintained, is in itself prejudicial to the subsequent motions of the limb, if the wound does not unite by first intention, but cicatrizes by granulation, as it almost invariably does.

Another cardinal point in this operation is the preservation of the attachment of the brachialis anticus muscle. It is commonly stated that this muscle is inserted into the coronoid process. No method of demonstration better displays the absolute fact in regard to this anatomical point than excision of the elbow on the dead subject, which, without dissection, makes plain that the attachment is into the shaft of the ulna and *base* of the coronoid process, abundant room being left between the process and the tendon for the passage of the saw (which should always be started on this side of the bone), and the removal of this portion of the ulna. Experience shows that the extent of fracture permitting an attempt to save the limb by excision seldom reaches a degree which prevents the carrying out of these rules; and it rarely happens that so much of the radius requires removal as to cause any interference with the insertion of

<sup>1</sup> Report of a Committee of the Associate Medical Members of the Sanitary Commission on the Subject of Excision of Joints for Traumatic Cause, 1862, page 11.

the biceps. The great muscles of extension and flexion are thus left in a comparatively undisturbed condition. The amount of bone excised decides to some extent the subsequent mobility. Excision of the articulating surfaces alone would probably in most cases be followed by an ankylosis. Regret might sometimes be felt at not having excised enough, but seldom at having removed too much. The sacrifice should always be at the expense of the humerus, since the limit for the ulna and radius is fixed, as has been stated, by the necessity of preserving the brachialis anticus and biceps muscles. This method of operation, as Dr. Hodges informs me, was taught twenty-six years ago by Alphonse Guérin in his private courses of instruction at Clamart. The *Éléments de Chirurgie* is, however, singularly deficient in details as regards excision of the elbow. A straight incision was proposed and practiced by Parek, on the dead subject, in 1782, and is that followed in what is known as Langenbeck's operation. A claim of "originality" for the procedure by which "the aponeurotic structures passing from the arm to the fore-arm" are preserved has been made by Mr. Maunder, of London, so recently as 1873. The earliest operation of the accompanying series was in 1866. The details above alluded to were observed then and in all subsequent cases, except when modified by existing wounds. In all its steps, the method has been taught in the operative courses of the Harvard Medical School since 1855. If the operation thus performed still possesses novelty it will not detract from the usefulness of this report.<sup>1</sup> The cases which follow are arranged in three groups, namely, excisions for injury, for disease, and for deformity. All of them were "complete excisions."

#### EXCISIONS FOR INJURY.

*CASE I. Compound Fracture; Wound torn open Eleven Weeks after Operation; Recovery with a Useful Arm.* — A man aged twenty-nine. Compound comminuted fracture of humerus and radius into the elbow-joint. Wounds communicating with the fracture over internal and external condyles. Excision a few hours after the accident. Two inches of humerus removed. Discharged at end of five weeks. Eleven weeks after the operation he could take his hat off with the injured arm. At this period he wrenched it and tore open the cicatrix. Three days later he fell and struck the joint, and was readmitted to the hospital, with a transverse wound, disclosing the ends of the bone, covered with granulations. It required six weeks for his recovery, and at the end of

<sup>1</sup> Dr. H. J. Bigelow's plan for excising the elbow-joint has been suggested since these cases were operated on. The incision is similar to that described, but in removing the articular surfaces he preserves the internal and external condyles of the humerus. This secures additional chances of good pronation, supination, flexion, and extension, by saving the attachments of muscles having their origin at the condyles. Proceedings of the Boston Society for Medical Improvement; Boston Medical and Surgical Journal, March 30, 1876.



twenty-two weeks from the occurrence of the injury he was again discharged.

*Condition Nine Years after the Excision.* — “Can knock a man down with a blow from the arm operated on. Can carry three full lager-beer glasses at once in the hand. Do a certain amount of teaming for a living. Can load and unload carts of furniture, coal, and wood.”<sup>1</sup>

*CASE II. Compound Fracture; Excision through Existing Wound; Recovery with a Useful Arm.* — A man aged twenty-four. Compound fracture of humerus and radius into the elbow-joint by being violently thrown against a revolving machine. Ragged wound on the outer and posterior aspect of the joint, through which lacerated muscles protrude. Excision, one hour after the accident, through the existing wound. A month after the operation an attack of hospital gangrene (prevalent at that period). Discharged two months from the time of injury.

*Condition Ten Years after the Excision.* — Can easily touch the forehead and shoulder of the same side with the hand of the injured arm. Can put on his collar, button it behind, write, and lift as much and as well as with the arm of the other side. Can easily earn fifteen hundred dollars a year by mechanical work which requires the use of both arms. Has for several years run a stationary engine and made his own repairs. Has good sensation throughout the limb, and perfect motion of wrist and finger joints. (See heliotypes.)

*CASE III. Joint opened by a Saw; Excision through the Wound; Recovery with a Useful Arm.* — A man aged twenty-three. Arm caught by a “band saw,” which entered behind the elbow, cutting off the ulna at the base of the olecranon, the outer condyle of the humerus, and cutting into the head of the radius. The muscles were cleanly incised, and a large wound was inflicted. Neither the brachial artery nor the ulnar nerve were injured. One hour after the accident the ends of the bone were squared and removed, without the necessity of any additional incision. Discharged four weeks from the time of injury.

*Condition Six Years after the Excision.* — “Can carry a pailful of water over half a mile with the hand of that side. Can raise my hand above my head with ease, and take down clothes or anything else that is hanging. Can use the ax to chop wood, and the fork to pitch hay. Have worked hard with it for about two years.”

In connection with this case mention should be made of a similar accident reported in this journal, August 14, 1862, by Dr. Edward Barton, of Orange. A “tub-saw,” of twenty-two inches diameter, came in contact with the flexed elbow of a man aged sixty-one, passing through “the soft tissues and diagonally through the humerus, at the

<sup>1</sup> These quotation marks here, and where they occur subsequently in describing a patient's condition, indicate that the statement is his own, communicated in writing. Other statements in relation to condition are from personal examination.

point where the bone spreads out to form the condyles, and in a similar manner through the neck of the radius and ulna, just below the coronoid process, the entire joint dropping upon the floor." The final recovery of this patient was such that he resumed his occupation of a chair-maker, "working from morning till night," and it is stated that "at some branches of his business he can accomplish as much as ever he could."

*CASE IV. Compound Fracture ; Excision Five Weeks after ; Recovery with a Useful Arm.* — A man aged twenty-three. Compound fracture of humerus and radius into the elbow-joint, the arm having been caught between the bumpers of two rail-road cars, six days before admission to the hospital. The limb was much swollen from the wrist to the shoulder. Profuse suppuration followed, and sloughing of the skin. Excision by a single straight incision five weeks after the accident. Discharged at the end of thirteen weeks.

*Condition Five Years after the Excision.* — Is now employed as freight brakeman on a railroad, and works from seven A. M. until six P. M., using the arm constantly. He has perfect sensation in the limb, and the movements of flexion and extension, pronation and supination are complete and satisfactory. He can put his hand over his head unaided ; also around behind him so as to touch the middle of his back with either the palmar or dorsal surface.

*CASE V. Compound Comminuted Fracture ; Excision One Week afterwards, through an Existing Wound ; Recovery with a Useful Arm.* — A man aged twenty-three. Compound comminuted fracture of the humerus, radius, and ulna, opening the joint, from being pushed off a rapidly moving horse-car. A week after the injury excision was performed through the existing wound. Discharged at the end of three months.

*Condition Five Years after the Excision.* — Has good flexion, pronation, and supination, but not complete extension, though sufficient to permit his carrying a pail of water comfortably for quite a distance. Uses garden tools readily, and dresses himself without difficulty. There is shortening of the arm to the extent of three and a half inches.

*CASE VI. Compound Fracture and Separation of Epiphysis ; Excision through the Existing Wound ; Recovery with a Useful Arm.* — A boy aged eight was run over by a horse-car, receiving a compound fracture of the right elbow-joint, separating the epiphysis of the humerus, which together with the heads of the radius and ulna were broken into several fragments. The integuments were stripped from the arm high up into the axilla. There was also a serious scalp wound, and the right ear was nearly torn off. Excision through the existing wound three hours after the injury.

*Condition Two Years after the Excision.* — Can use the limb for all

purposes, and joins in all games and athletic sports of boys of his age. The arm equals the other in strength, no movement being impaired except supination. It is three inches shorter than the left, growth in length not having kept pace with that of its fellow. Does not appear conscious of any difference in the two arms.

*CASE VII. Compound Fracture ; Excision Twenty-four Hours after ; Recovery with a Useful Arm.* — A man aged forty-eight. Compound fracture of the olecranon and external condyle, opening the left elbow-joint, from the kick of a horse, the corks of his shoe cutting the integument over the olecranon. Excision by a single straight incision twenty-four hours after the accident. Discharged at the end of four weeks.

*Condition Three Years after the Excision.* — Can carry a pail of water any distance, or lift a hundred pounds. Does all regular farm work. Hoes, shovels, mows, rakes, and “can use the fingers and hand as well as ever he could.” Feels that the arm is still gaining strength.

*CASE VIII. Compound Comminuted Fracture ; Excision Twenty-Four Hours after ; Recovery with Ankylosis.* — A man aged fifty-eight. A heavy stone fell upon his right arm, producing compound comminuted fracture of the humerus and radius into the elbow-joint, with a contused and lacerated wound over the external condyle and the upper third of the fore-arm, involving the muscles beneath. On the following day the joint was excised through a single straight incision, three inches of the radius being removed in a much comminuted condition. Discharged at the expiration of eleven weeks.

*Condition Two Years after the Excision.* — Ankylosis at an angle of one hundred and thirty-five degrees, with no pronation or supination. Has good use of his wrist and fingers, and is able to earn his living as a teamster ; “would not take five hundred dollars for the limb,” nor would he risk another operation through fear that it might not leave him so useful an arm as he already has. By his own confession he neglected to exercise the arm after leaving the hospital.

This patient is the oldest of those whose cases are reported. Statistics show that ankylosis has no connection with advanced years, but depends on other causes. In the present instance it was undoubtedly due to the injury inflicted on the muscles at the time of the accident, which was followed by long-continued suppuration, and to the fact that so much of the radius was removed.

*CASE IX. Compound Fracture ; Excision the Same Day ; Recovery with a Useful Arm.* — A man aged thirty-eight, while intoxicated, was thrown out, backwards, over the tail-board of a wagon, falling on frozen ground, causing a compound fracture of the internal condyle of the humerus into the elbow-joint. Excision was performed the same day through a single straight incision. A lacerated wound on the anterior

aspect of the joint, not communicating with the fracture, was closed by sutures. Discharged three months and a half after the accident.

*Condition Nine Months after the Excision.* — Is at work at his trade of a house-painter. This compels him to stand on ladders twenty and twenty-five feet from the ground. He holds on to the ladder with the injured arm, and reaching to one side does the required painting. Motions of the fingers and wrist are perfect. Has excellent flexion, extension, pronation, and supination. Says the arm is nearly as useful as ever it was, and that it is gaining strength every day.

Five cases are briefly narrated which resulted fatally; they are appended to complete the record of excisions for injury.

*CASE X. Compound Fracture and Dislocation; Fracture of the Thigh; Excision One Hour afterwards; Death from Shock at End of Eighteen Hours.* — A man aged forty. Compound fracture of ulna and radius, and dislocation of the elbow-joint from a fall of forty feet. Also simple fracture of the femur. Severe shock. Excision by a single straight incision one hour after the injury.

During the following night great distress in the abdomen. Gradually sank, and died towards morning. No autopsy could be obtained.

*CASE XI. Compound Comminuted Fracture; Excision; Death from Tetanus in Thirteen Days.* — A man aged twenty. Compound comminuted fracture of humerus and ulna into the elbow-joint, received in shackling cars. Soft parts extensively lacerated, and ulnar nerve exposed in the wound. Joint excised through a single straight incision a few hours after the accident. Eight days after operation, trismus followed by tetanus. Death thirteen days from time of injury.

*CASE XII. Compound Fracture; Excision Seventeen Days after; Death at End of Twenty-Four Days from Thrombus and Gangrene of the Lungs.* — A man aged forty-eight. Walking on a railroad track was struck by a locomotive, receiving a compound fracture of the olecranon, opening the elbow-joint. Seventeen days afterward excision, performed through a single straight incision. A series of chills supervened, and he died twenty-four days after the accident, and seven days after the operation.

At the autopsy a thrombus was found in the pulmonary artery, and the right lung was in a gangrenous condition.

*CASE XIII. Compound Comminuted Fracture; Fracture of the Ilium; Excision Five Hours afterwards; Death at End of Six Days.* — A man aged fifty-five. Five hours before admission fell through the hatchway of a coal-vessel. Compound comminuted fracture of the ulna into the elbow-joint, with laceration of the soft parts. Also, fracture of the crest of the ilium. Elbow-joint excised through a single straight incision. The patient did well at first, though he complained greatly of

pain. On the third day diarrhœa set in, and the arm became very much swollen. There was great ecchymosis about the ilium. His pulse grew weak, and he gradually sank, and died six days after the injury. No autopsy was permitted.

CASE XIV. *Compound Fracture ; Other Serious Injuries ; Excision two Hours after ; Death from Shock at End of Eighteen Hours.* — A lad aged nineteen. Caught in the machinery of a flour-mill, he received a compound fracture of the right humerus, radius, and ulna into the elbow-joint ; also a compound fracture of the os calcis. From a lacerated wound of the left axilla the belly of the biceps muscle protruded. The skin of the abdomen was torn up from the pelvis to the ribs, and hung loose. There was also fracture of the pelvis and a wound of the left thigh. Excision was performed two hours after the accident. The shock of the injury was not recovered from, and the patient died in eighteen hours.

Of these fourteen cases of excision for injury it will be seen that five terminated fatally ; in two (Cases X. and XIV.) hardly any other result could have been anticipated. In Case XIV. the propriety of operation was discussed, and, but for the youth of the subject, would not have been decided upon affirmatively.<sup>1</sup>

Tetanus (Case XI.) and septicæmia (Cases XII. and XIII.), which together occasioned three deaths, at the end of twenty-four, six, and eight days respectively, were as much, and even more, results of injury than of operation. In Case XII. excision was deferred, possibly to a too remote period from the time of accident. In none of the cases ending fatally, however, was there any reason to think that amputation, or expectant treatment, would have been followed by more favorable results. If traumatic excisions, in civil practice, were comparable with those performed for gun-shot injuries, the opinion of Dr. Otis, expressed in the *Surgical History of the War of the Rebellion*, would perhaps not support this consoling conclusion. He says, "although the point is open to argument, I fear the substitution of this resection for amputation effected no saving of life."

#### EXCISIONS FOR DISEASE.

CASE XV. *Articular Caries ; Excision ; Recovery with a Useful Arm.* — A man aged forty-two. For a year, pain in the elbow, obliging him to give up work. Joint enlarged and inflamed, with a number of fistulous openings, discharging pus copiously. No history of injury or

<sup>1</sup> That excessive injury does not absolutely forbid operation is shown by a case now under my care, in which I excised the elbow of a man aged twenty-seven, and two weeks afterwards laid open the knee-joint by extensive incisions, almost detaching the leg, on account of suppuration set up within the articular capsule, from a wound over the head of the tibia received at the same time as that of the elbow. At the end of sixty-one days he is doing perfectly well.

other assignable cause. Excision by a single straight incision. Articular surfaces of humerus, radius, and ulna found in a carious condition. Discharged at the end of six weeks.

*Condition Six Years after the Excision.* — Since leaving the hospital has worked in a cemetery, digging graves, wheeling a barrow, etc., and now uses the arm for every purpose as well as the other. On examination it is found that though he cannot completely extend it there is excellent flexion, pronation, and supination. Two years ago had trouble in his knee, with suppuration, ending in a complete ankylosis.

*CASE XVI. Disorganized Joint; Excision; Recovery with a Useful Arm.* — A colored man aged twenty-three, struck his elbow violently against a cart-wheel. Six weeks afterwards the joint was hopelessly diseased with fistulous openings. Excised through a single straight incision. Discharged at the end of six weeks.

*Condition Five Years after the Excision.* — Can use the arm for everything that he could before the operation, except carrying a "hod;" can use a pickaxe or shovel as well as he ever did. Pitches hay and shovels coal. "Mowed all summer, eighteen hours a day." "Is not left-handed, but can lift more with the injured arm (the left one) than he can with the right." At present "works ten hours a day as a gardener."

*CASE XVII. Chronic Disease of Joint; Excision; Recovery with a Useful Arm.* — A colored woman aged sixty-one years. For three years, disease of the elbow-joint. Several fistulous and suppurating openings; motions limited. Excision through a single straight incision. Discharged three months after operation.

*Condition One Year after Excision.* — Has excellent flexion, extension, pronation, and supination. Can knit, sew, darn stockings, or lift a chair with perfect ease. Has good use of the wrist and fingers, as implied by the above statement. Is still gaining strength in the limb.

*CASE XVIII. Chronic Inflammation of Joint; Excision; Recovery.* — A man aged twenty-four. Nine weeks ago his elbow, which had previously troubled him, became painful and swollen. The arm is now extended and nearly motionless, with three fistulous openings into the joint. Excision was performed through a single straight incision. Repeated attacks of mild erysipelas delayed his discharge until three months after the operation.

*Condition Eight Months after the Excision.* — He writes that "the arm is gaining strength every day," but does not specify in his letter how much or what he is able to do with it.

#### EXCISIONS FOR DEFORMITY.

*CASE XIX. Ankylosis; Excision; Recovery with a Useful Arm.* — A man aged twenty-nine. Complete bony ankylosis between the ulna and humerus from an injury, three years before admission. Radius

rotates freely, but there is a large mass of ossific deposit about the lower end of the humerus and the olecranon. Excision performed through a single straight incision six inches long, removing with difficulty a shapeless mass of bone, very thick, and two inches in length. The operation was a bloody one, and a large number of ligatures were required. At the expiration of three months a renewed deposit of bone formed, and, in spite of passive motion under ether, ankylosis again occurred. A second excision was performed, three inches of bone being removed. The radius was found firmly united to the humerus by strong ligamentous bands. The ulna was lengthened upwards and beyond the junction of the radius and humerus. Discharged five weeks after the second operation.

The difficulties attending excision for ankylosis are remarked upon by Dr. Hodges in his *Excision of Joints*, and it is stated that, "if the bones are not removed so freely as to leave a considerable interval between them, the tendency to reunion will be with difficulty overcome." The operator considers that inattention to this maxim occasioned the necessity of a second excision.

*Condition Five Years after the Excision.* — No better statement of the ultimate result of this case can be given than the following letter from the patient himself.

March 12, 1876.

SIR, — Yours of the 11th inst. received by me to-day, and in reply to the first inquiry, Is it my right or left hand? It was the right. And if it was the right, if I could write? Yes, as well as ever. Second, How much can I lift. Never tested as to lifting, but in wheeling a bar row, say five or six hundred pounds, can do it without any injury; or in shoveling, don't hurt me in any way; also in carrying parcels, one is just as useful as the other. What I can take in one hand, shift it to the other, and it is just the same. Next inquiry is, If I could put the injured hand to the top of my head. Yes, readily. Also, if I can straighten the arm. Yes, completely. Next inquiry is, can I touch the shoulder of the injured side. Yes, as readily as I could before being injured. Next is, can I rotate the hand. Yes, can I whirl it or twist it as fast as the other. Then you say, please state what assistance the arm is to me in any ordinary occupation. It is as useful to me as ever it was previous to my being hurt, and if I could afford it I would go in person and let you see that what I have written above is correct. I can shave myself with the right hand just the same as before being injured; in fact, can do everything under hand just the same. I remain, most respectfully,

W. R.

CASE XX. *Cicatrix from a Burn; Ankylosis; Death from Hæmorrhage.* — A female aged fourteen. Some years before admission, her arm, axilla, and side were severely burned. An ulcerated and granulating surface persists in the vicinity of the elbow-joint. Muscles of the arm and fore-arm atrophied, and motions of the elbow arrested by cicatricial tissue which extends around the joint and for some distance above and below it. Fore-arm flexed upon the arm at an acute angle. Hand partially flexed and supinated. Excision by a single straight incision. Ten ligatures applied, the wound, as might be expected, being very vascular. Two days afterwards severe secondary

hæmorrhage occurred, which required five bleeding points to be tied. She gradually failed, and died four days from the time of operation.

In explanation of this result, it should be said that this patient was an exceedingly feeble girl, and, as an autopsy showed, the subject of tuberculous lungs. The hæmorrhage took place in the night, unknown to herself, and was overlooked by her attendants, until no other termination than that which followed could be expected.

*CASE XXI. Ankylosis from Unreduced Dislocation; Excision; Recovery with a Useful Arm.* — A man aged twenty-seven. One year ago dislocated both bones of the forearm backwards. An unsuccessful attempt at reduction, twenty days after the accident, resulted in making the injury compound, the wound being on the anterior surface of the joint. Several openings communicating with the joint continue to discharge, and bits of bone have exfoliated. The arm is extended and ankylosed, with the hand pronated. The integuments are tightly stretched over the back of the elbow joint. Excision was performed through a single straight incision, and the removal of the articulation, ankylosed by ligamentous union, was effected with difficulty. Two inches of bone were excised. Sharp secondary hæmorrhage occurred five hours after the operation, and again on the following morning. These hæmorrhages were repeated at intervals, during the succeeding month, and after the wound had filled with granulations. They were apparently due to the impaired health of the patient. They never required ligature of any vessel, but always stopped by compression. They debilitated and demoralized the man to such an extent, that he eloped from the hospital seven weeks after the operation.

*Condition Eight Months after the Excision.* — From neglect to use the arm considerable stiffness has resulted. Two months ago he was etherized, and the false joint easily carried through the full motions of extension and flexion, but not of pronation and supination. At present carries the arm at a right angle, and can slowly flex and extend it through a quarter of a circle, neither complete flexion or extension being attained. The muscles of the upper arm are recovering from their extremely atrophied condition, and the motions of the wrist and fingers are perfect.

The treatment pursued in these excisions can be briefly stated. The wound was invariably closed with sutures. The arm, after the operation, was laid upon a pillow, flexed at an angle of  $135^{\circ}$ , that being the position most comfortable for the patient. Local inflammation, abscesses, pain, etc., were met by active measures based on general surgical principles. A generous diet was always allowed and encouraged. When the arm was in a state to permit of bandaging, an internal angular splint of tin, broader than usually adopted for fractures,



and fitted as regards length to each individual case, was applied, and the patient allowed to get up and walk about, the wound being dressed without the removal of the splint. The time spent in the hospital was not great; one patient remained seventeen weeks, the others an average of about nine weeks. When discharged the splint was usually dispensed with, and a sling substituted. Passive motion was rarely practiced beyond that which came from such use of the limb as patients could be persuaded to make, and a useful arm was seldom obtained before the end of a year from the time of excision.

In twenty-one cases where amputation must otherwise have been performed, this report exhibits fifteen arms preserved, several of them being useful to a remarkable degree, and all of them, except one, retaining motion of the elbow, fore-arm, hand, and fingers. These excellent results suggest the inquiry whether this operation is not deserving of a broader application. A successful excision always leaves an arm more serviceable than one in which ankylosis has taken place after a bad fracture unaccompanied by a wound. Professor Busch, of Bonn, has twice excised with success the entire joint, for irreducible dislocation of the head of the radius, both pronation and supination being regained. A measure which of itself, in civil practice, so seldom occasions a fatal result, would seem more than merely justifiable in this seemingly trivial but thoroughly disabling accident, in which reduction is often impossible, or, if possible, so rare to maintain.

Excision of the elbow was first performed in the United States, in 1834, at the Massachusetts General Hospital, by the late Dr. John C. Warren, and although now very generally practiced in certain classes of injury and disease, it may still be doubted whether, in this brief period of forty years, the full range of usefulness has been reached which belongs to this invaluable operation.

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## RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY E. S. WOOD, M. D.

*Fermentation of Urine.*—The method of preparing delicate test paper for the detection of urea in the urine or other fluid has been previously referred to in these reports.<sup>1</sup> M. Musculus has continued his researches upon this subject, and now recommends<sup>2</sup> theropy alkaline urine of a patient with cystitis as the best material from which to obtain the ferment which causes the decomposition of urea to ammonia and carbonic acid. Such a specimen of urine should be precipitated with strong alcohol and filtered. The alcohol precipitates the mucus, etc., and renders the separation of the solid from the fluid by filtration very easy. The precip-

<sup>1</sup> The JOURNAL, July 2, 1874.

<sup>2</sup> Archiv der Physiologie, xii. 214.

itate is dried by gentle heat, powdered, and preserved in a well-stoppered bottle. The filter papers used may be prepared as test papers for urea in the manner mentioned in the previous report.<sup>1</sup>

If a little of the powder thus obtained be added to fresh urine or to a dilute solution of urea, and the whole kept in a warm place, the urea becomes rapidly and completely decomposed. Microscopic examination of this powder shows no spores, such as are always found in fermented urine, and to which has been ascribed the property of causing the decomposition of urea. The author, therefore, considers that this substance is a chemical or unformed ferment, and for the reason also that it is soluble in water, the perfectly clear solution acting as readily upon urea as the solid powder.

This ferment behaves with reagents almost precisely like mucin; it is precipitated by alcohol and acetic acid; Millon's reagent produces a precipitate which becomes rose-red on warming; the alcoholic precipitate dissolves in water, very readily, if the water contains a little salt, and the solution decomposes urea; 0.1 gramme dissolved in fifty cubic centimetres of water will completely decompose 0.2 gramme of urea to ammonia and carbonic acid in less than an hour, if kept at a temperature of about 35° C. The acetic acid precipitate will not act upon urea; in fact, almost all acids will destroy its activity, even though they are in very dilute solutions. If a small amount of the ferment be treated for ten minutes with a solution of hydrochloric acid (1:1000), and then neutralized with sodium hydrate, it will not act upon urea. Sulphuric, nitric, acetic, and salicylic acids prevent its activity as well as hydrochloric acid. A temperature of 80° C. destroys it also. Carbohic acid, which destroys the activity of all organized ferments, does not affect this one, so that the urea test paper soaked in pure carbohic acid and afterwards washed with alcohol loses none of its activity.

This ferment acts upon none of the other nitrogenous constituents of the urine, such as uric acid, kreatin, kreatinin, hippuric acid, etc., so that we have in it a reagent which may be used for the quantitative estimation of urea, and one which is not open to the objection that it also acts upon other substances which may exist in the urine in small amounts. The presence of albumen in the urine also does not affect its action on urea. The method recommended for performing the quantitative analysis for urea is as follows: To ten cubic centimetres of urine add a little sodic carbonate, dilute to ten times its volume with water, add a few drops of a solution of litmus, neutralize exactly with a dilute acid, and then add about 0.2 gramme of the powder. Keep at a temperature of from 35° to 40° C. In one hour the decomposition of the urea will be complete, when the ammonia derived from it may be estimated in the ordinary way by titrating with a standard solution of sulphuric acid.

<sup>1</sup> Loc. cit.

On account of the great similarity of this substance to other chemical ferments, such as diastase and the salivary and pancreatic ferments, in regard, for instance, to its solubility in water and its behavior with acids, alkalies, salts, and carbolic acid, the author considers that the material which causes the alkaline fermentation of urine is not an organized ferment, as has been thought by most authorities, but a chemical one, and that it is contained in the vesical mucus.

MM. Pasteur and Joubert<sup>1</sup> take exception to the above statements of Musculus, that it is the vesical mucus which acts as the true urea ferment, and that this ferment has none of the properties of the organized ferments for the reasons long known, that, whenever urea or urine becomes alkaline, there may always be detected a microscopic organism, and that normal urine when it does not contain the germs of this organism preserves its acidity for an indefinite period. They acknowledge, however, that there does exist a soluble ferment which is capable of decomposing urea into ammonia and carbonic acid at the ordinary temperature, and which does exist in decomposed urine. They attempt to reconcile the two facts by considering that the soluble ferment is produced by the organized one, and they find that the maximum amount of the soluble ferment is produced as soon as all of the urea, upon which the organisms live, is decomposed; they also find that this soluble ferment of Musculus may be produced by these living organisms in other fluids than urine, fluids which never were in contact with the vesical mucous membrane, and which never contained urea. By placing a little of the pure organized ferment in a decoction of beer yeast, for example, the organism grows and increases in number, and there is formed in the fluid a soluble ferment which may be precipitated by alcohol, the precipitate having all of the properties of that obtained by Musculus from the urine of cystitis, and having the power of decomposing urea to ammonia and carbonic acid.

The above statements of Pasteur and Joubert are confirmed by Berthelot,<sup>2</sup> who considers that the living organism is not the true ferment but engenders it, and that the soluble ferments once produced can then exert their specific action.

*Indican.* — The formation of indican, which is found in normal urine in small amount, and to a greatly increased extent in some pathological urines, from indol which is formed during the pancreatic digestion of albumen, has been previously mentioned.<sup>3</sup> Nencki<sup>4</sup> does not consider that the pancreatic fluid is at all necessary for the production of indol from albumen, since Hüfner found that, when albumen was treated with pure pancreatic ferment in such a manner as to entirely exclude all organ-

<sup>1</sup> Journal de Pharmacie et de Chimie, September, 1876, page 206.

<sup>2</sup> Ibid., page 208.

<sup>3</sup> The JOURNAL, July 1, 1875, page 14.

<sup>4</sup> Berichte der deutschen chemischen Gesellschaft, ix., No. 4, s. 299.

isms, no indol was formed, but on the other hand it was formed by merely allowing a solution of albumen to stand exposed to the air without the addition of any pancreatic or other animal tissue. He therefore considers that the indol is a specific product of the putrefaction of albumen by the formed ferments, and that the presence of indican in the urine during starvation, as was shown by Salkowski,<sup>1</sup> does not prove that it is formed within the system by the soluble ferments, since germs of the lower organisms exist not only in the pancreas but also in the liver, muscles, and other tissues.

That indol is one of the products of the fermentation and putrefaction of albumen there can be no doubt, and it is certain that this may be produced not only in the intestine by pancreatic digestion but also in the tissues. It is somewhat doubtful, however, whether it is produced by the soluble or by the organized ferments. The experiments of Hoppe-Seyler<sup>2</sup> show that the products of the decomposition of albumen, when the presence of all lower organisms is carefully excluded, are almost precisely the same as the products of the putrefaction of albumen, although no special tests were made for indol in his experiments; and Salkowski mentions<sup>3</sup> the formation of indol from fibrine when the decomposition takes place under ether, and from albumen by heating with water to a temperature of 180° C., in neither of which conditions could the organized ferments exist.

E. Baumann<sup>4</sup> considers that the indican exists in the urine in the form of a sulpho-acid, of which there are two others besides the one which by decomposition gives rise to indican, namely, one giving phenol (carbolic acid) and the other brenzcatechin. These acids are always combined with a metal. They are stronger acids than acetic acid, and their salts, therefore, are not decomposed by it, but they are readily decomposed by hydrochloric acid. The amount of these acids may readily be determined by first acidulating the fresh urine with acetic acid and adding an excess of baric chloride, which will precipitate all of the sulphuric acid existing in the urine as a sulphate; filter, and to the filtrate add an equal volume of hydrochloric acid, and warm several hours on a water bath; this will decompose the sulpho-acids, and the sulphuric acid formed by the decomposition will be precipitated as baric sulphate.

The urine of patients being treated with carbolic acid was found to contain ten or fifteen times the amount of sulphophenolic acid (also called phenylsulphuric acid) existing in normal urine. Thus, from one hundred cub. cent. of the urine of one patient there was obtained 0.355

<sup>1</sup> *Berichte der deutschen chemischen Gesellschaft*, ix., No. 2, s. 138.

<sup>2</sup> *Medicinisch-chemische Untersuchungen*. Heft iv., s. 561.

<sup>3</sup> *Berichte der deutschen chemischen Gesellschaft*, ix., No. 5, s. 408.

<sup>4</sup> *Berichte der deutschen chemischen Gesellschaft*, ix., No. 1, s. 54.

gram. of baric sulphate derived from the sulphates, and 0.266 gram. derived from the decomposition of the sulpho-acids. The urine of a dog before being treated with carbolic acid gave in fifty cub. cent. 0.313 gram. of baric sulphate from the sulphates, and 0.015 gram. from the sulpho-acids; and eighteen hours after penciling a space on the back of the animal about twice the size of the palm of the hand with carbolic acid, fifty cub. cent. of the urine gave 0.006 gram. of baric sulphate from the sulphates, and 0.225 gram. from the sulpho-acids, derived, of course, in this case chiefly from the sulphophenolic acid. The potassium salt of sulphophenolic acid was obtained perfectly pure from horses' urine, in which it exists in large amount.

In some pathological cases E. Salkowski<sup>1</sup> has found this sulphophenolic acid in very large amount in human urine, and he has always found it associated with a great increase of indican. In a case of peritonitis, where there were also symptoms of intestinal obstruction, the carbolic acid was estimated by distilling the urine after acidulating with hydrochloric acid, and precipitating the carbolic acid in the distillate with bromine. The amount of this precipitate in two hundred cub. cent. of the urine was 0.0395 gram. In other cases in which there was a very large increase of indican the amount of the bromine precipitate in two hundred cub. cent. of urine was 0.2785, 0.0485, 0.1985, 0.226, and 0.3115 gram., or a maximum in one litre of urine of 1.5575 gram., while the amount in normal urine is, according to J. Munk,<sup>2</sup> only 0.004 gram. In some of these cases the amount of the sulpho-acids was determined and found to be largely increased.

There seems to be a very close relationship between the amount of phenol and of indican in the urine, since injection of indol into the veins of animals produced not only an increase of the indican but also of the phenol.

(To be concluded.)

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## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

APRIL 8, 1876. The president, DR. HODGDON, in the chair.

*Mammary Abscess During Pregnancy.* — DR. RICHARDSON reported the case. Mrs. W., sixteen years of age, primipara. During her pregnancy her general condition had been apparently remarkably good. No cause could be assigned for the local trouble in the breast. When about seven and a half months pregnant she began to complain of slight occasional pains in the right breast. She paid no special attention to it for a week or two, when she noticed a slight enlargement in the size of the breast as compared with the

<sup>1</sup> Berichte der deutschen chemischen Gesellschaft, ix., No. 16, s. 1595.

<sup>2</sup> Pflüger's Archiv, xii. 144.

left one. Both breasts were naturally large. On examining it one day she discovered a slight local tenderness just within the circle of the areola. The breast very gradually increased in size, the pain became more constant and more severe in character, and the tenderness over the spot alluded to very marked. About eight days before her confinement I saw her for the first time, the pain having been so severe as to prevent her from sleeping the two previous nights. On examination the breast appeared nearly a third larger than the left one, and was decidedly firm and tender to the touch. There were no signs of any inflammatory action about it. Just within the areola was a soft, bulging point, at which fluctuation could readily be detected. The glands in the axilla were enlarged and tender. A free incision was made and half a tumblerful of healthy pus was evacuated. A linseed-meal poultice was ordered. Immediate relief followed the operation. Two days later a fluctuating point was detected about two inches below the seat of the incision. A second opening was made, and a seton was introduced, connecting the two openings. The case did remarkably well, and the seton was removed six days after her confinement, which occurred the seventh day after I made the first opening.

The point of interest in the case was as to what should be the proper course to pursue as to nursing the child. In this case, as it turned out, the question as to the best method of procedure did not arise, the patient having no milk in either breast. I had made up my mind that it would be best not to attempt nursing even with the unaffected breast, lest the act of nursing should, owing to sympathy, create additional disturbance in the breast which had been the seat of the abscess.

There was nothing in the history or appearance of the abscess to indicate that it owed its origin to the pregnant condition of the patient, and the case is not reported as such, but as being interesting as regards the question of what is the proper treatment with regard to lactation in such cases.

DR. COTTING said that he had had a case of mammary abscess occurring in a primipara three months before labor. The disease went through the usual process, and the breast was entirely destroyed. After the labor the woman nursed with the other breast. She subsequently had two other children, and nursed from the single breast. The "broken breast" never gave any trouble after its first healing.

DR. MINOT reported a case of abscess of the breast in a young girl who was neither married nor pregnant. An incision gave exit to a large amount of pus. He stated that he had heard it said that mammary abscess never occurred in a breast which was not nursed from; he had had a patient however, who nursed her child on the right side only, having no nipple on the left. No applications were made to the left breast, but an abscess formed there, discharged for some weeks, and was followed by much prostration.

DR. FIFIELD added a case of abscess occurring spontaneously in the breast of an unmarried girl, eighteen years of age.

DR. LYMAN said the result, as regards the possibility of nursing, would depend upon whether the abscess was or was not intra-glandular.

DR. ABBOT reported the case of a lady who had a large abscess of the

breast resulting in a fistulous opening near the nipple, from which milk escaped for five months. The child nursed the breast without trouble.

DR. CURTIS mentioned the case of a patient who nursed from the well breast without difficulty while the other was affected. He saw no objection to nursing the diseased breast so long as the pus does not flow into the nipple.

DR. LYMAN remarked that in most cases the interlobular tissue was not affected, and cases in which the whole gland is affected are comparatively rare. Where a small portion only of the gland proper was affected the relief of the remaining milk ducts might be advisable to prevent extension of the disease, but if the whole or a large part of the gland was involved the pain would prevent the application of the child to the breast. If the abscess be sub-cutaneous or sub-mammary only, he thought that in the majority of cases the continuance of nursing was not only favorable but desirable.

DR. SINCLAIR remarked that a woman has two breasts, apparently that, in case of accident, one may take the place of the other. The importance of duplication is manifest in the case of the eyes and ears.

DR. CHADWICK said he had known of a woman, in Vienna, who had milk enough for seven children on the day after delivery.

DR. LYMAN questioned whether the case reported by Dr. Richardson was more than simple abscess, such as might occur on any part of the body and independently of the pregnant state.

*On the Action of Ergot as concerns the Uterus and Bladder.* — DR. FIFIELD said that some months ago he attended a woman in confinement. The labor was excessively slow. A full drachm of ergot was given without any effect either upon the force or the frequency of the pains. Upon a later examination a fold of the bladder was found lying in front of the presenting head, and about an hour and a half after the administration of the ergot the catheter was passed. A small amount only of urine was drawn, but from that moment the action of the ergot was fully developed; the pains were revived, and the labor was speedily and safely accomplished.

Dr. Fifield recalled the observations, in Garnier's *Dictionnaire Annuel* 1873, of a physician who says when in cases of labor ergot is administered and fails to show its action on the uterus that the action is diverted to the neck of the bladder, causing spasmodic contraction. By the use of the catheter the action is transferred again to the uterus. The reviewer of this gentleman's statement criticises it by saying that it is pure assumption. Dr. Fifield said he had no other cases to cite, but it seemed well to bear the matter in mind and take advantage of the statement.

Dr. Fifield remarked that at a meeting of the Boston Society for Medical Improvement, at which he reported the case, the weight of opinion was that the action of ergot is and can be shown upon the bladder. Hence its employment in incontinence belonging to the sphincter. Dr. Wernich, on the contrary, contends that the effect of ergot is an increase of the urine itself, this being due to the augmentation of the sanguine pressure produced by the ergotine. Thus it is repletion of the bladder which causes delay in the expulsion of the fœtus after administration of the drug. He shows that in animals poisoned by ergot the bladder fills very rapidly after catheterism. Hence the rule in cases of labor where ergot is given to use the catheter frequently.

*Graily Hewitt's Cradle Pessary.* — DR. MINOT reported the cases of two hospital patients with anteversion, to whom this instrument had been of service. In one of the cases the regular manufactured article was first employed, but it was found that one made by bending into the required shape a copper ring covered with pure rubber answered better. It keeps in place nicely. A patient once sent to him by Dr. Nichols was unable to walk until after the application of one of these instruments, when she could do so with ease.

DR. FIFIELD said that there may be the most marked anteversion and yet no difficulty in locomotion, and the same may be said of retroversion. He had lately had a patient brought to him who had been under the care of various physicians for ulceration of the os uteri, and found such marked anteversion that the bladder was unable to contract as it should, but the patient had never had a symptom of trouble with locomotion.

DR. ABBOT remarked that uterine distortion often exists without the patient being aware of any trouble. He mentioned a case of complete retroflexion in a patient who ten years previously had miscarried and had never been pregnant since. Most of the time she had suffered no inconvenience from the retroflexion. A condition of congestion made her a subject for treatment, and then the flexure was for the first time discovered. She recovered from the congestion, but the distortion remained, giving her no serious inconvenience. No pessaries or supporters were employed in this case; the treatment was mainly by cold hip-baths. Other cases had come under his observation which had evidently come to the knowledge of the patient by accident as it were, the flexure continuing to some extent without much inconvenience after other local causes of discomfort had subsided.

DR. CURTIS reported the case of a girl eighteen years of age, single, who suffered great annoyance from irritable bladder. A stem pessary was applied and worn with the greatest comfort and relief.

*Cancer of the Cervix.* — DR. CURTIS reported two cases. In the first, a round-celled sarcoma, the cavity of the cervix was hollowed out like a crater. The second case was one of cauliflower excrescence. Both were greatly relieved by scraping with the spoon-shaped instrument of Simon.

*A Knot in the Umbilical Cord.* — DR. CHADWICK exhibited a cord with a knot in it, from a healthy child born at full term.

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### FERRIER'S FUNCTIONS OF THE BRAIN.<sup>1</sup>

THE turbid chaos of facts in which the laws of the functions of the encephalon have so long lain dissolved seems at last to be clearing itself up by depositing something like an orderly precipitate of doctrine. Dr. Ferrier's work may be regarded as the first successful attempt to collect and exhibit this doctrine in its full generality, — in other words we may regard it as marking the end of an old era, and the beginning of a new one in cerebral physiology. Dry as it is in point of style, we can warrant the reader who is in the slightest

<sup>1</sup> *The Functions of the Brain.* By DAVID FERRIER, M. D., F. R. S., With Numerous Illustrations. New York: G. P. Putnam's Sons. 1876.



degree interested in the subject, that it will hold him spell-bound until the last page is finished; for the facts and reasonings form such a beautifully graduated *crescendo* of demonstrative evidence, and anatomy, pathology, experiment, and psychological analysis play so harmoniously into each other's hands, that one cannot bear to interrupt the process till its logical evolution is complete.

Concerning Dr. Ferrier's originality in the matter, it may be said that in the main the conclusions of his work have for several years past been, so to speak, in the atmosphere, and that they would inevitably have soon shot together and crystallized in some one else's hands, if not in his own. Meynert's views in particular may in the main be called anticipations of our author's. But the merit of being the first authoritative propounder of a general theory of brain action based on thorough experimental as distinguished from anatomical evidence belongs undoubtedly now to Ferrier; and his own persevering investigations on the brains of monkeys have certainly helped him to this position of priority, since they alone have so beautifully (we cannot say unexpectedly) filled up the gap between the facts of human pathology, and the results of experiment on dogs, cats, and rabbits.

The actions of these latter creatures are seen clearly now to differ widely from those of man and monkey in requiring less and less of the intelligent initiative of the cerebrum for their production. A rabbit, with all his brain above the corpora quadragemina gone, will still perform a certain number of normal motor functions, in response to sensory irritations. He will keep his equilibrium and leap forward until stopped by an obstacle, and will seem, in fact, not vastly different from a frog under similar circumstances. A dog, to show the same actions, will need to preserve at least corpora striata and thalami in addition; whilst in monkeys and in man even these ganglia perform no coordinated motions unless large parts of the hemispheres are also left functionally intact. We will state as briefly as we can the general conclusions drawn by our author from these and from other facts.

The hemispheres contain strictly localized cortical centres for the performance of particular movements and for the storage of sensible images. Dr. Ferrier has determined the latter not only in monkeys but in other animals. The auditory images reside in monkeys in the convolution which forms the posterior boundary of the Sylvian fissure, homologous with the first temporo-sphenoidal in man. This gives experimental corroboration to the theory of Wernicke based on a psychologic analysis of the phenomena of aphasia. The *optic* images have their seat in the gyrus homologous to the combined supra-marginal and angular of man. The hippocampal convolution is the substratum of ideas of *touch*. *Smell and taste* are bound up with the integrity of the temporo-sphenoidal in its lower part. Destruction of the severally named parts of the hemisphere in monkeys caused abolition of the corresponding forms of sensibility. Destruction of the occipital lobes differed from other localized destructions in producing anorexia, whence Dr. Ferrier is disposed to count them as seats of organic sensibility in general, inasmuch as hunger is one of its forms. As regards the antero-frontal lobes, neither removal nor irritation causes any positive motor or sensory symptoms, but produces a change in the demeanor of the animal which the author characterizes as a loss

of the power of attention. He accordingly hypothetically suggests that these lobes may be general centres for inhibition, as attention is, according to him, conditioned upon that faculty.

Now these cortical centres coöperating together, support the entire intelligent and voluntary life of the animal. All acts implying choice, intention, or comparison, all those preceded by ideas and guided by feelings, originate here. But once originated, they may by force of habit come to be performed with less and less consciousness. In physiological terms, this means that they have become organized in the basal ganglia. The corpus striatum has become so *educated*, as to execute at a stroke a complex action which at first proceeded by distinct conscious installments, and the optic thalamus has grown in like manner able to discharge at once into the corpus striatum a complex set of sensory data, which originally needed to be deliberately felt and recognized by the superior centres in the gyri. These ganglia thus appear to be "organs of relief" for the hemispheres, and their "secondarily reflex" action is considered by Dr. Ferrier not to be accompanied by consciousness. The degree of their autonomy, however, differs widely in different animals. In birds, rabbits, etc., in whom education adds little to the powers of movement existing at birth, these centres are largely automatic from the start. Destruction of the whole cortex still leaves the animal capable of performing most of his usual movements. Indeed, in these creatures locomotion and equilibrium devolve upon the corpora quadragemina and the centres back of it, for a rabbit will stand and respond to pinching by coördinated movements of flight when his basal ganglia are both gone. His *fore* legs, however, are considerably disabled by the operation; for the movements they perform are largely influenced by distinct volition in the normal state of things, and this whole component drops out when the corpus striatum is destroyed. In the dog, automatic action as regards station and locomotion does not reside back of the basal ganglia.

After ablation of these ganglia the dog lies helpless and prostrate. But if they are left, large parts of the cortex may be removed with no permanent disorder except a sort of ataxia. The muscles move in an appropriate and coördinated way; *except* (and this is beautifully shown by Goltz's observations lately reported in this journal) when required to execute movements of a distinctly artificial sort. Goltz found that his trained dogs would not "give their paws" when the cortex was scooped out, though the same paw would coöperate harmoniously in the locomotive movements of the quadruped. Giving the paw required too much conscious intelligence to have become automatic in the ganglia. Now in monkeys and in man it would seem that conscious purpose plays so fundamental a part in all the motions that *none* of them ever become thoroughly automatic. Destructions of those regions of the cortex which the dog rapidly recovers from, are in monkeys followed by a complete paralysis of the appertaining limbs, and this lasts as many days as the monkey lives. Their corpus striatum may coöperate with the cortex, but cannot fully replace it. Man and monkeys in other words have hardly any native powers, and remain creatures of training all through life; whilst the results of training form but a slight portion of the aptitudes of lower creatures, and the organ of training, namely the convolutions, is, relatively speaking, an unessential part of their organization.

Dr. Ferrier agrees with those who ascribe to the thalami a purely sensory significance. Discrepant observations are beautifully explained by him. Total destruction of the thalamus abolishes all sensation on the opposite side. In this state of hemi-anæsthesia, the monkey, wholly unaware of its limbs, lets them hang flaccid, and so appears paralyzed. But the apparently paralyzed limbs will coöperate with the others when the animal is thrown on his back and struggles to recover itself. Movements of *equilibration* are in fact of a lower order than any other of the animal life, and these struggles are probably discharged from the monkey's mesencephalon. In the rabbit, however, movements of *locomotion* may occur when the thalamus is destroyed and the rabbit is pinched, but this is merely due to the fact that in this simple-minded creature, parts back of the thalami respond in this elaborate reflex way to the particular irritation of pinching. It is not due, as Nothnagel says it is, to the survival of true sensation, for burning, etc., of the opposite side calls forth no motor reaction at all in a rabbit whose corpus striatum is destroyed.

Thus, keeping account of the grading of animals above one another, the facts are seen gradually to fit together and to form an harmonious whole. We wish our space admitted of extracts, for in addition to the points we have noticed, the book abounds in original suggestions. The analysis of aphasia is admirable. Dr. Ferrier also has an important and original discussion of the motor feelings, and decides in opposition to Bain and others, that they are not feelings of the outgoing innervation, varying in specific quality as its direction to different muscles varies; but that they are ideal or actual afferent impressions, the result of the changes to which the muscular contraction when performed gives rise. His theory of attention as based on inhibition is also highly interesting and important. Both these theories, as well as his assumption that all events back of the cortex are strictly unaccompanied by consciousness, suggest doubts and further questions, which, however, we cannot enter into here. Suffice it to say that every student of the nervous system must read the entire book in which they are presented. We for our part feel a certain ethnic *amour propre* gratified by the thought that it is written not in German, but in our own tongue.

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## A RETROSPECT.

WE would call the attention of our readers to the fact that the present year concludes the first half century of the existence of this journal. Fifty years ago not a single American medical journal of the present day was in existence. We were not without a medical literature, however, for in Boston alone there existed at that time two journals, — a quarterly and a weekly. The former of these had already become what to-day would be considered a veteran journal. The *New England Journal of Medicine and Surgery*, "conducted by a number of physicians," first appeared in 1812, and was maintained at a high standard for sixteen years. We find in the leading number the names of John Warren, James Jackson, Walter Channing, John C. Warren, Jacob Bigelow, and many others, — ample proof of the excellent auspices under which our parent, if we may use the term, began its existence. The *Journal* was supported

with zeal and ability, and contained many valuable papers, but as its supporters became more engrossed in the increasing medical business, it became more difficult to prepare elaborate articles. The need of a periodical of lighter character and more frequent publication was felt.

In 1823 Dr. J. V. C. Smith started *The Medical Intelligencer*, and after a time was succeeded in its management by Dr. Coffin. This was the first and for many years the only medical weekly in the country.

It was at this period that medical journalism received a new impetus from the appearance of the *Lancet*, conducted by Mr. Wakeley, the brilliancy and satire of whose articles established that journal on a basis more enduring and prosperous than any other periodical.

In the year 1827 Dr. Walter Channing and Dr. John Ware became the sole editors of the quarterly, and it was proposed to them by Dr. John C. Warren to join with him in purchasing the *Intelligencer*, and unite the two journals, whose combined circulation would equal that of any periodical in the country. Thus originated the present Journal, the first number of which appeared on February 19, 1828, a few months after the first issue of our esteemed contemporary, *The American Journal of the Medical Sciences*. Dr. Warren contributed the leading article, giving, it may be worth while to mention, a case of trephining of the lower jaw for excision of the nerve. A woodcut of the Massachusetts General Hospital precedes the article, and adorns many of the early numbers of the Journal, for it was from this source chiefly that a large amount of the clinical material for the Journal was obtained. There are few medical centres of the world which can claim the uninterrupted appearance of a weekly publication since the year 1823. Indeed, so varying have been the fortunes of medical journalism in this country, that the more prominent journals of to-day are in point of years but infants as compared with the two which we have mentioned. Space would not permit us, and it would be no slight task to enumerate the host of contemporaries which have sprung into existence and passed away during this period. The ephemeral character of our medical literature has been, unfortunately, a marked feature, the result of a system which we have frequently called attention to and which we hope is soon to pass away. It is not without pride and satisfaction that we now approach our "semi-centennial." The elements which have combined to maintain us in a long and vigorous existence, are more potent now than ever, and the prospect of closing the half century with undimmed prestige and resources vastly increased is as favorable as it is gratifying.

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#### MEDICAL NOTES.

— E. Bidder reports in the *Petersburger medicinische Wochenschrift*, 1876, No. 8, a case where the umbilical cord could be distinguished through the abdominal wall. The cord could be felt near the umbilicus running diagonally over the back of the fetus, and was slightly movable. In consequence of abnormal shortness, at most 30 cm. (11 $\frac{3}{4}$  inches), it did not slip off and the child was born dead.

— *Virchow's Archiv*, lxvii., page 206, contains a report by F. Marchand of the disengagement and birth of a polypous uterine myoma, which was the size of a goose egg, with a pedicle 1.5 to 2.5 cm. broad ( $\frac{1}{2}$  inch to 1 inch), and which was situated on the front wall of the cervical canal. In straining at stool it was forced out of the vagina, and torn off without any appearance of suppuration at the place of rupture.

— M. Maisonneuve (*L'Union médicale*, November 28th) being called quite late one afternoon to reduce a dislocation of the shoulder, and unable to obtain assistance, seized the patient by the elbow, drew him over his own shoulder, making the patient's weight the counter-extension, and thus, manipulating the parts with his fingers, succeeded in reducing the dislocation. He has now resorted to this method three times. In one case, also, where the luxation had existed fifteen days, his success was complete.

— Bälz, in the *Archiv für Heilkunde*, xvii., page 468, speaks of a case of chronic digitalis poisoning which was observed in Wunderlich's clinic. A woman afflicted with a high degree of mitral stenosis had, through a prolonged use of large doses of digitalis, so accustomed herself to the drug that without it she fell into the most miserable condition; this was almost magically removed by the exhibition of the drug. She used daily morning and evening 0.3 grm. of digitalis (nearly gr. v.), and had in seven years taken over 800 grm. (more than 2 lbs.) of the preparation. The case described has a very great resemblance to those of morphineism.

— Albrecht, in the *Petersburger medicinische Wochenschrift*, 1876, No. 24, reports five cases of supernumerary semilunar valves of the heart, two of which were of the aortic and three of the pulmonary valves. The number of valves in each case was four, of which three were of the normal size while the fourth appeared considerably diminished. In one case only, two pulmonary valves were half as large as the two others.

— J. Steinitz, in the *Allgemeine medicinische Central-Zeitung*, in reporting about the epidemic of measles in Breslau, speaks of three children whom he saw, varying in age from three to eight years, where a recurrence of measles took place twice in two weeks and once in three weeks after complete termination of the disease.

— According to the *London Lancet*, December 2d, disinfection as a system is almost unknown in Paris and throughout France. In that country there is no law to provide for disinfection of houses or clothing, even after the most infectious diseases, nothing to prevent the healthy from occupying habitations saturated with the poison of such diseases, or from wearing the clothing recently worn by the sick. If fumigation and the like were desired by those concerned, there would be almost insuperable difficulties in the way, there not being men competent to the task, nor any establishments where bedding, clothes, carpets, etc., can be disinfected by heat. Furthermore the public are not protected against infection in public conveyances, persons suffering from such diseases often riding to hospitals in such vehicles. If this be so, it is an interesting question how much worse off are the French, so far as the spread and amount of such diseases are concerned, with this startling imprudence, as the *Lancet* calls it, than the English with all their multifarious laws in the

matter, and their frequent infractions. The subject is worthy of further study and comparison.

— In the *Deutsche medicinische Wochenschrift*, No. 16, 1876, Rutenberg gives the results of an attempt to diminish the temperature of the body by means of cold water enemata after the method of Simon and Heger. Rutenberg injected cold water high up into the intestine and let it remain till it was thought to have been warmed to the temperature of the body, when it was allowed to escape. He observed on himself after the injection of  $\frac{5}{4}$  to  $\frac{7}{4}$  litres (nearly 2.638 to 3.69 pints) of water at  $0^{\circ}$  C. ( $33.8^{\circ}$  Fahr.), or a little warmer, that the temperature in the mouth at the same time fell  $1.1^{\circ}$  to  $1.5^{\circ}$  C. ( $1.98^{\circ}$  to  $2.70^{\circ}$  Fahr.), and a quarter to a half hour later rose again. In two out of three experiments in which the thermometer was read off every five minutes a very slight elevation preceded the fall ( $0.05^{\circ}$  C. =  $0.9^{\circ}$  Fahr.). In two young people who suffered from intermittent fever he made injections during the hot stage. By this means the temperature in the axilla in one fell during two hours and a half from  $41.1^{\circ}$  to  $40.2^{\circ}$  C. ( $105.98^{\circ}$  to  $104.36^{\circ}$  Fahr.), in the other during two hours and two thirds from  $39.7^{\circ}$  to  $38.5^{\circ}$  C. ( $103.46^{\circ}$  to  $101.3^{\circ}$  Fahr.). Rutenberg regards this fall as purely the result of the injections of water, and from it seeks to determine the amount of cooling of the body.

— A talking-machine, says *L'Union médicale*, is in Brussels, the invention of Professor Faber. He has been twenty years in perfecting it, and has at last attained success. The machine has three essential parts: the lung, a bellows moved by a lever which is worked by the foot; the larynx, which consists of a single membrane; and the mouth, which is enormous, with a tongue of proportional size. The person who makes the machine talk plays with his fingers on fourteen levers, each one of which is marked with a letter. By combination of these levers two by two the remaining twelve letters are produced.

A practical use of this machine is to teach deaf mutes to speak. They see the movements which its tongue makes to produce the various sounds, and strive to imitate these movements, which, owing to the size of the organ, they can easily observe. Talking-machines are not new; those who frequent medical societies are familiar with them, but we are glad to find that there is one worthy of imitation. In most cases we would wish the machine to imitate the deaf mute.

## MASSACHUSETTS GENERAL HOSPITAL.

### MEDICAL CASES OF DR. MINOT.

*Ulceration of the Os Uteri resembling Malignant Disease; Cure.*— Harriet P., thirty years old, married, entered the hospital February 8, 1876. She had always been delicate. Married ten years ago, she had a miscarriage a year afterwards, at the third month, which was followed by hæmorrhage lasting several weeks, owing to retained placenta. A year later she was confined at full time, after a hard labor, which seems to have left her with a separation of the symphysis pubis, preventing her from walking for three months. From this she recovered, but for four or five years past she has had cough,

and occasional hæmoptysis for two or three years, — but she has not been ill until June, 1875, when she began to flow, between the monthly periods, and to be much troubled with leucorrhœa, pain in the left inguinal region, left thigh, and back, and a sensation of bearing-down. There was, also, prostration, with inability to walk.

These symptoms continued at the time of her entrance. She was pale, but had no fever, nor any cachectic appearance. The cervix uteri was voluminous and hard, pointing downwards and forwards. The os was surrounded by a margin of grayish-red, abraded or ulcerated surface, half an inch wide. It was rough, tender, and bled very freely when touched. The disease extended upward on the outside of the cervix, towards the left, and posteriorly, nearly as high as the vagina. There was some retroversion of the uterus, the sound being directed backward, somewhat downward, and to the left (the patient lying on the left side). It entered to the length of three inches. No enlarged glands could be felt in the vicinity of the uterus.

The appearances resembled those of epithelial malignant disease, and the question of removal of the cervix by the knife or wire cautery was considered, but the operation was deferred in the hope that treatment might be followed by improvement.

At first, chromic acid (a saturated solution) was applied freely to the diseased surface. This was repeated at intervals of about a week. No improvement followed, the hæmorrhage, pain, bearing down, etc., continuing exactly as before. There was no extension of the disease, but no change for the better could be seen. Several superficial ulcerations covered with sloughs were noticed on the anterior and lateral aspects of the cervix, probably caused by the acid.

May 14th, a saturated solution of carbolic acid with an equal amount of glycerine was substituted for the chromic acid, and this treatment was continued, at intervals of a few days, till June 1st. There was no improvement, however, though still no extension of the disease. The nitrate of silver was now tried, the diseased surface being lightly touched with the solid stick. On examination, four days afterwards, a decided change for the better was noticed. The application was repeated on the 7th, and again on the 11th, when it was recorded that "the abraded surfaces are gradually healing." Four more applications were made, at intervals of about five days, and on the 29th the surface was completely healed. The patient left the hospital well, on the 30th. Treatment always was followed by the application to the cervix of a pledget of cotton soaked in glycerine. Injections of warm water were occasionally used, and also warm hip-baths. Tonics and a good diet were prescribed.

*Uterine Fibroid, treated with Ergot.* — Mary B., aged forty-three years, entered the hospital, May 13, 1867. She is married and has had two children and one miscarriage. Last pregnancy more than fifteen years ago. The menses were always regular, appearing every three weeks, and were quite profuse. Five years ago she noticed a hard, smooth, round tumor in the right inguinal region. It was movable but not painful nor tender. At the same time there was frequent micturition, also constipation, a bloody discharge from

the womb, and pain in the back. These symptoms continued up to the time of her entrance.

A large, hard irregular tumor occupied the region of the abdomen below the anterior superior spine of the ilium, to the right of the median line. An outgrowth from this, globular in shape, extended towards the left, and upwards for about three and one half inches above the ramus of the pubes. The tumor was movable, and examination per vaginam with the finger and by the sound showed that it formed a part of the womb. The sound entered to the extent of four and one half inches, in direction backward and to the right. There was profuse menorrhagia, and the woman was pale and waxy-looking.

She was ordered twenty drops of the fluid extract of ergot; on the 15th the dose was increased to forty drops. This caused a good deal of pain, extending from the right flank down the thigh, and the patient complained so much that the medicine was omitted on the 21st, for twenty-four hours. The pain was somewhat diminished, but returned again with the resumption of the ergot on the 22d. The uterine discharge became more yellow and thicker. No particular change was noticed on external or internal examination. On the 29th the ergot was again omitted for a day, with relief to pain. The dose was then increased, first to fifty drops, then to one fluid drachm, and afterwards to a drachm and a half three times daily. On June 3d it was noted that the tumor seemed decidedly softer.

The treatment was continued till July 11th, when it was omitted, probably on account of the pain. (The service came under the charge of another physician, July 1st.) The patient left the hospital, July 20th, considerably relieved in respect to the hæmorrhage, but without any decided diminution in the size of the tumor.

*Acute General Tuberculosis; Death in Seven Weeks.*—James Brady, thirty-four years old, single, born in Ireland, entered the hospital March 15, 1876, with the following history. His parents and other relatives were all healthy, so far as he knew. He had never been sick before the present attack. He had been in the habit of taking liquor to excess, at times, but he averred that he had not drunk a drop for the past six months. He had been much exposed to wet and cold. Six weeks before entrance, after exposure, he was taken down with chills, headache, thirst, cough, and expectoration of "rusty" colored sputa. He had no pain in the chest, and no hæmoptysis. There was little or no dyspnoea. He lost flesh and strength rapidly. He slept poorly; and lost his appetite; bowels regular.

There was very little difference on percussion between the two sides in front; abundant, moist, clicking râles, increased by cough, in right upper front, and throughout the right back; in right lateral region the respiration was harsh. The chest-wall below the right clavicle was considerably sunken. On the left side the respiration was harsh and jerking, but no râles were heard.

There was a good deal of emaciation. For several days the temperature remained at 100° in the morning, rising one or two degrees at night; pulse 103; respiration 34. He sank rapidly, and died, March 24th, the physical signs increasing daily.

*Autopsy*, by Dr. Fitz. The right pleural cavity was obliterated by old ad-



hesions. Left upper lobe adherent to a limited extent; the pleural surface of the left lung was dotted with miliary tubercles. Both lungs, especially the left, were dotted with yellow granules, of the size of a pin's head, or less, apparently the cheesy contents of small bronchi; elsewhere, especially at the bases of the lungs, were innumerable gray, glistening granules. Numerous dilated bronchi communicated with occasional cavities, the largest of which were of the size of English walnuts, in the upper lobe of the left lung, and there were small isolated patches of cheesy degeneration. The spleen was enlarged, and its surface minutely granulated from the presence of innumerable gray, miliary tubercles. The kidneys on section showed many rather opaque tubercles, both singly and in groups of three or four. The liver contained numerous opaque, miliary tubercles. There were many ulcers in the small intestine, from the middle downwards, and a few cheesy follicles in their vicinity, but no tubercles. The pia mater on the under surface of the anterior lobes of the brain was rough, but no tubercles were observed.

*Wasting Palsy.* — John V., sixteen years old, entered the hospital, April 20th, and was discharged "relieved," August 29th. His family history was good, and his parents were in comfortable circumstances. When very young, he had a "fever" which laid him up a long time; he also was afflicted with a "scrofulous humor" of the head. For some years he has been subject to "bilious attacks," with nausea, vomiting, headache, etc., lasting several weeks. Six years ago, without known cause, a dull, heavy pain, with weakness, gradually came on in the right arm and left leg, no other part being affected. These symptoms have continued up to the present time. He never had rheumatism.

Dr. J. J. Putnam, who kindly examined the patient, made a report of his condition, from which the following particulars are taken. All the muscles of the right hand and arm are smaller and softer than those of the left, and the patient considers that arm as decidedly the weaker of the two (he is not left-handed). There is no prominent atrophy anywhere, except on the flexor side of the forearm. All movements are possible. The lower angle of right scapula is more prominent than that of left, but the right serratus magnus contracts readily under faradization. The metacarpo-phalangeal angle of the thumb is more prominent than normal, and the plane in which the thumb lies, approaches abnormally that of the rest of the hand. The patient can grasp almost as firmly with the right hand as with the left. When the hand is resting on the knee the fingers twitch slightly, from time to time. At the entrance of the patient, fibrillary twitching was also observed in the larger muscles of the shoulder and arm, but after he had been in the hospital for some weeks, (under daily treatment with galvanism and faradization,) this was no longer to be observed. The patient afterwards made a stay of two weeks at home, and on his return the fibrillary twitching was again observed, and again disappeared after treatment, that of the fingers, however, still persisting. All the muscles of the left thigh and leg are uniformly smaller than those of the right side, but all respond readily to faradization, and to the will. All the nerve-trunks of the right arm apparently respond as readily to faradization as those of the left, but the contraction of the flexor sublimis digitalis, and of the

flexor brevis and opponens pollicis is very feeble, so that it is difficult to produce the result which normally attends their action by exciting the median nerve in the upper arm. They all contract sufficiently readily, however, under careful localized stimulation.

The treatment employed was mainly galvanism direct and induced, with the administration of cod-liver oil and iron, good diet, and moderate exercise out of doors. The patient and his friends felt sure that he had gained in strength, during his stay of over four months in the hospital, and the wasting of the flexor muscles of the forearm and of the flexors of the hand was less marked than at first.

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### LETTER FROM PHILADELPHIA.

MESSRS. EDITORS, — Dr. H. C. Wood, recently elected professor of *materia medica* in the medical department of the University of Pennsylvania, was so fortunate as to obtain from Professor Soldanha of the Brazilian Commission at the late Exhibition a collection composed of roots, herbs, many kinds of seeds, specimens of various kinds of India rubber, and several kinds of tapioca which the South American people bake in the form of loaves; also a specimen of turtle butter, a mild fatty substance which retains its sweetness even after six months' exposure. This substance is used by the inhabitants of Brazil as we use the ordinary butter. In this collection there are, too, three or four kinds of jaborandi; and, by the by, what we call jaborandi, Soldanha says, is another thing entirely, and is called in Brazil by a Spanish name which signifies "cure for serpent bite." It belongs to the genus *Rutaceæ*. True jaborandi belongs to the family of the *Piperaceæ*. *Matte*, or South American tea, in regard to which a pamphlet has been published, is another interesting specimen in this instructive collection. In view of the slight intrinsic value of these specimens one would think that the centennial custom-house authorities could offer no objection to their removal, and so thought Dr. Wood. But he had seen only one side of the shield. The wisacres of the revenue service soon entertained him with an act from *Much Ado About Nothing*. The little collection which was to be used merely for teaching had to be invoiced, entered, and passed like a bale of silk. This was, of course, an instance of red tape which might put Mark Twain's "beef contract" to shame. But Wood is nothing if not persistent. The collection was to be passed free of duty; nevertheless a broker had to be engaged, and all the other enjoyable details properly cut and dried. I don't know how many hours this labor cost Wood, but after much travail the delivery was effected and he has his collection.

The members of the late Centennial Medical Bureau were recently honored by the gift to each of a handsomely bound copy of the Catalogue of the British Section, "with the compliments of His Grace the Duke of Richmond and Gordon." The British Commission had been much interested in the Medical Bureau, and took this pleasant and courteous means of expressing their appreciation of this feature of the Exhibition.

The insane department of the Philadelphia Hospital now contains 1169 inmates. Including the new pavilions there are accommodations for 766 pa-

tients. Consequently this department is terribly crowded. Patients are so huddled together that classification is impossible. The result is that even mild cases become incurable, and under existing circumstances cure is out of the question. Everything is in perfect order, patients are clean and warmly clad, but the effects of overcrowding are painfully apparent. There is a Babel of confused sounds. Owing to the overcrowding not even the skill of Dr. Richardson, the resident physician, is able to dissipate the vagaries of the mildest lunatic. The Board of State Charities has for years fought for the better accommodation of these unfortunates. Ten gentlemen have finally been appointed with powers to select a site for a new institution, for which twenty-five thousand dollars have been appropriated. Appropriations for the building are yet to be made. It is hoped that the hospital will be located in Philadelphia. The project originated with George L. Harrison, formerly president of the Board of State Charities.

I think you will be interested in a brief allusion to our art school. Since the opening of the schools in October the directors of the Academy of Fine Arts have been making energetic efforts to extend the educational advantages of the institution. Their wish is to render the course of study comprehensive and thorough. In addition to the life and antique classes there have recently been organized a drapery-painting class and a class in modeling. The importance of the latter is shown by the fact that it is largely made up of the members of the drawing and painting classes, who see how necessary it is that they, as well as those who mean to devote themselves to sculpture, should work from the living model. Hitherto there have been no proper facilities in this city for working in clay from the living model, but it may now be doubted whether any Continental school has as fine a modeling room as that which has been arranged at the new Academy of Fine Arts. It is as noble as the building itself, and is provided with all the conveniences which art students could demand. The modeling class is taught by the distinguished sculptor, J. A. Bailly. To the list of professors have recently been added the names of Christian Schüssle, Thomas Eakins, and Dr. W. W. Keen. The latter gentleman holds the chair of artistic anatomy, a branch which he is peculiarly well fitted to teach. This is, besides, one of the new professorships of the school. Nothing, indeed, has been omitted in the endeavor to make the institution thoroughly attractive to art students, and it may be safely said that the faculty of the Pennsylvania Academy of Fine Arts is a very strong body of teachers.

In one of our quiet by-streets is an institution designed for the treatment of diseases peculiar to women. It is a special hospital, and its object is separate and distinct from that of any other hospital in the city. This does not seem to be generally understood, since it is frequently confounded with the Woman's Hospital, in which women are treated for any non-contagious disease without regard to its nature, while at this institution — the Gynecological Hospital — but one class of patients is received, namely, poor and reputable women who are afflicted with diseases of the womb or its appendages. The aim of the corporators of this hospital is to meet the wants of thousands of impoverished but respectable women who suffer from the diseases referred to, and who,

rather than seek relief at a general hospital, will doom themselves to lives of pain and perhaps of uselessness. The Gynæcological Hospital offers them not only freedom from observation while under treatment, but supplies them with many necessary conveniences otherwise beyond their reach. This is only one of the many practical charities which are so abundant and so generously supported in Philadelphia. The hospital is in the third year of its life, and bids fair to become an efficient and enduring aid to suffering women.

The city council recently called upon the health officer of the Philadelphia Board of Health for an estimate of expenses for 1876. In the course of his response Mr. Addicks makes the following allusion to the health of the city during the present year: "In view of the enormous floating population of centennial visitors and of the long and excessive hot term during the summer months, the general health of Philadelphia has been almost all that could be desired. Two diseases have been more prevalent than heretofore, and have demanded the utmost care and vigilance of the Board of Health in order to check their course and abate their cause, namely, typhoid fever, of which the number of deaths up to this date is 634, representing a supposed number of 3804 cases; and small-pox and varioloid, 357 deaths, representing a supposed number of 2142 cases. The deaths from the same diseases during the year 1875 were typhoid 419, small-pox 54. The utmost care should be taken against the increase of the latter disease during the approach of winter, and I may now say that in a certain section of our city prompt and thorough action must be taken by this department in this direction."

To what section of the city Mr. Addicks thus refers I do not know, but I know of one in which a physician two months ago treated a youth for small-pox. Upon his recovery the mother of the patient hung his bedding and clothing in her yard, where they remained several days. Shortly after she, too, was stricken down. The same physician attended her. She died, and her body remained in the house forty-eight hours. A father who lived in the same house, an ignorant man, but one who possessed common sense, called upon his physician for advice. He feared that his family might become victims to the contagion to which they were so criminally exposed. Proper advice was given him. He first threatened the physician who had attended the small-pox cases, and finally did report him and the cases to the Board of Health. The physician attempted to browbeat him, and the Board of Health could do but little because the woman was already dead and about to be buried. The attending physician *had reported neither case to the Board of Health*, and in all probability would have gone quietly on with a score of other cases, if need had been, in the same house. He is an intelligent man. Is comment necessary?

The board of managers of the University Hospital recently submitted their report (at their third annual meeting) for 1876. The number of patients in hospital January 1, 1875, was 34; number since received, 609. The number at present in hospital is 57. Average residence of patients 29.05 days; percentage of deaths, 7.3. The cost of maintaining each patient was \$1.38½ per diem. Total cost of maintaining the hospital for the year, \$26,179.65. Receipts for the year, \$1845; from the board of patients, \$11,409.24. Number of patients treated in the surgical dispensary from January 1, 1876, 1099; in

the medical dispensary, 2126; ear dispensary, 186; dispensary for nervous diseases, 303; eye dispensary, 513; diseases of women, 460; skin diseases, 322; total, 5009; treated in hospital, 609; grand total, 5618.

A new professorship has just been created in the University of Pennsylvania by the influence or at the request of Mr. John Welsh. This gentleman is president of the Centennial Board of Finance, and has won heartfelt admiration and respect, not only for his eminent and untiring services during the Exhibition, but more perhaps for his energy and courage, five years ago, when he was almost alone in having a firmly-rooted faith in the success of a Centennial International Exhibition. He is the one man to whose unflinching zeal the existence and splendid triumph of the Exhibition was due. Grateful citizens wished to offer Mr. Welsh a testimonial in token of their appreciation, and he with a noble thoughtfulness begged that, while he accepted the essence of this testimony, its practical form might be tendered to the university for the foundation of a professorship, to which he would be glad to give his own name. It is called the "John Welsh Professorship," and the endowment for its establishment was \$50,000.

Since 1868 the university has been wonderfully favored by gifts of this nature, namely, the residue of the estate of John Henry Towne, \$500,000; the professorship of dynamic engineering, founded by Asa Whitney, \$50,000; gift of land by J. V. Williamson, \$75,000; gift of Reese W. Flower for the astronomical department, \$200,000; contributions to the general endowment, \$177,000; John Welsh Professorship, \$50,000; the library has received from four sources \$40,000. The hospital has received from the city of Philadelphia six acres of land, \$50,000; from the State, \$200,000; from J. V. Williamson, land, \$75,000, and numerous private gifts amounting to \$204,000, a total of \$529,000; and for the university at large a grand total of \$1,621,000. What makes these figures more impressive is the fact that this enormous amount has been donated within the past eight years. During the eighty years prior to 1868 not a dollar had been given to the university. This brilliant array of gifts which have been suddenly showered upon her tempt one to believe in the tales of the Arabian Nights. Some of the gifts have not yet been received by the university, as life estates in some of them are still outstanding, and others do not at present produce an income; but the list, as given above, is a sure indication of the interest felt in the institution by the city and State.

H. O.

PHILADELPHIA, December 25, 1876.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 23, 1876.

	Estimated Population, July 1, 1876.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1875.
New York	1,061,244	432	21.17	29.35
Philadelphia	825,594	281	17.69	22.24
Brooklyn . .	506,233	185	19.00	24.92
Chicago . .	420,000	159	19.69	19.75
Boston . .	352,758	172	25.35	26.20
Providence	101,500	41	21.00	19.02
Worcester .	51,087	18	18.32	20.91
Lowell . .	51,639	16	16.11	20.55
Cambridge	49,670	15	15.70	23.31
Fall River	50,372	10	10.32	23.99
Lawrence .	36,240	10	14.35	25.96
Lynn . .	33,548	14	21.70	19.23
Springfield	32,000	3	4.81	20.93
Salem . .	26,344	0	39.40	22.92

Normal Death-Rate, 17 per 1000.

BOOKS AND PAMPHLETS RECEIVED. — What is the Nature and Purpose of the Fever Process in Human Bodies? By Z. Collins McElroy, M. D. (From the Cincinnati Medical News for December, 1876.)

The Physician's Handbook for 1877. By William Elmer, M. D., and Albert D. Elmer, M. D. New York: W. A. Townsend. A very convenient and useful handbook.

WE have received from A. Williams & Co. the Physician's Visiting List for 1877, published by Lindsay and Blakiston. It is prepared in its usual neat and convenient style.

The American Journal of Microscopy and Popular Science. Pp. 16. Vol. II. No. 1. January, 1877. (From C. Stodder.)

BATTLEY's solution, of which we are requested to give the formula, is a secret remedy. It is thought to be made pretty nearly as follows: —

R̄ Extract opii (hard) . . . . . ʒ iij.

Aquæ dest. bul. . . . . ʒ iij.

Dissolve and filter. When cold add

Spirit. vini rect. . . . . ʒ vi.

Aquæ q. s. to make . . . . . Oij.

The above are English imperial measures. The dose is half that of laudanum. — Eds.

At a meeting of the medical staff of the Free Hospital for Women, held December 29, 1876, the following resolution was adopted: —

Whereas God in his infinite wisdom has taken Dr. W. W. Morland from our number,

Resolved, That by his death we have lost a highly esteemed friend and co-worker, and the institution one of its most influential supporters.

Dr. F. Minot has been unanimously elected to fill the vacancy in the consulting board occasioned by the death of Dr. Morland.

NORFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held in Bradley's Building, corner of Dudley and Warren streets, Roxbury, on Tuesday, January 9th, at eleven o'clock. Papers, communications, etc.: —

1. Dr. D. D. Gilbert, Extra-Uterine Fœtation, with a Case.

2. Dr. Robert Amory, Local Boards of Health, and the Duties of the Medical Profession relating thereto.

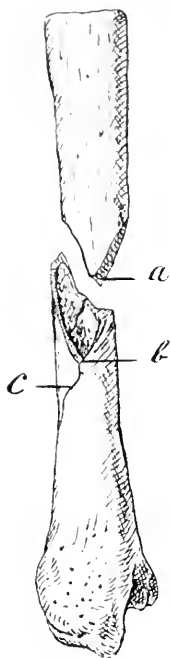
3. Dr. James Waldo, Observations upon School Hygiene.

4. Dr. J. S. Greene, The Regulation of Temperature in Some Acute Diseases.

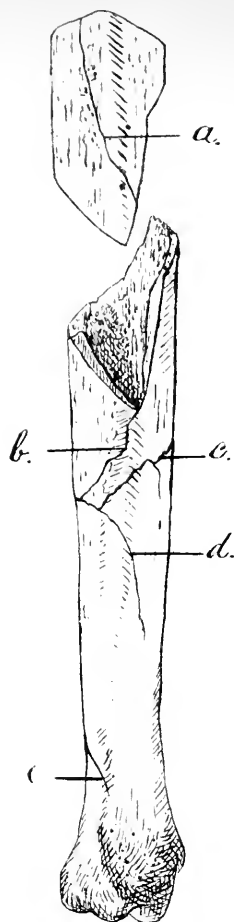
Lunch at 1.45 P. M.

ARTHUR H. NICHOLS, Secretary.

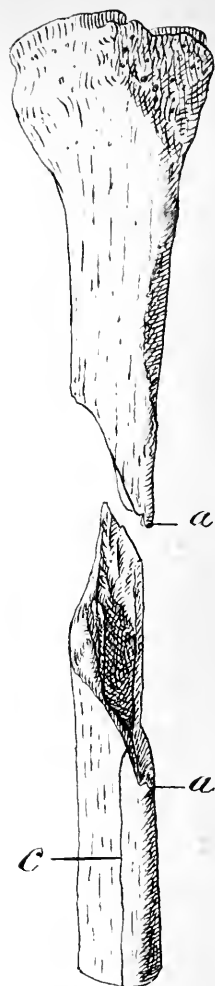




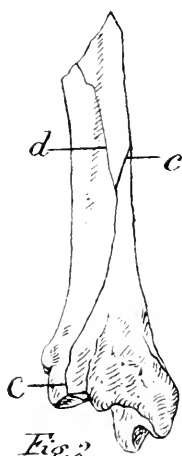
*Fig. 1.*



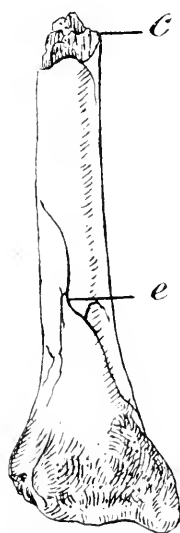
*Fig. 3.*



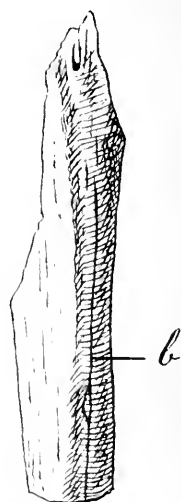
*Fig. 5.*



*Fig. 2.*



*Fig. 4.*



*Fig. 6.*



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## FISSURES OCCURRING IN LONG BONES; WITH REMARKS ON V-SHAPED FRACTURES OF THE TIBIA.

BY R. M. HODGES, M. D.

THE purpose of this paper is to call attention to fissures, or cracks, occurring in long bones, particularly the tibia.

Although fissures have been described from an early period, modern authors refer to them almost exclusively in the history of cases of ancient date, and show little if any personal familiarity with their phenomena. It appears, however, that certain varieties occur more frequently than has been supposed, and affect especially the above-named bone.

The term "fissure" applies to a line of fracture varying in length, the sides of which are in apposition, penetrating through, or partly through, the solid shaft of a bone, and unattended by the separation of fragments. The statement of Malgaigne, that if a fissure involves the whole thickness of the shaft it must extend to one or the other extremity of the bone, is entirely at variance with facts.

The gravity of this lesion is unquestionable. A force which disrupts, in the most unyielding direction of its fibres, the shaft of an adult long bone, often at a distance from the point where the violence centres, must be powerful enough to cause serious results.

Certain symptoms, under circumstances to be described, justify the opinion that a fissure exists; but the diagnosis is difficult, and sometimes impossible, even when there is a wound of the soft parts.

It is a well-known fact that brittle cylinders tend to break by lines which assume a spiral direction. Any collection of glass tubes will illustrate this point in their broken extremities or the accidental fractures they may have undergone. It will also show that, almost invariably, a crack in the glass extends the spiral a certain distance into the tube, beyond the broken point. The extent to which this principle is applicable to the fractures of bones is still hardly realized, although attention has been called to it by Gerdy, H. Larrey, Houel, and, emphatically, by Gosselin. Fissures exhibit the influence of this law by generally assuming a more or less spiral direction.

Three varieties of crack, or fissure, may be described: —

I. Those unaccompanied by other fracture.

II. Those starting from a fracture.

III. Those accompanied by, but disconnected with, a fracture.

The first variety may be called the true fissure. No example of it exists in the museums of this city. The elaborate article of Poncet<sup>1</sup> admits but three incontestable cases. It occurs so rarely that instances reported have been subjected to searching criticism. Those radiating from bullet-wounds it is claimed should be excluded from consideration. A femur from the museum of Val de Grâce, with an interrupted linear fissure extending nearly the whole length of its anterior surface, figured by Malgaigne, is without history. It has been suggested that in this, as in other specimens without history, the apparent fissures are really "season cracks," and the result of desiccation or weather exposure. That figured by Gürlt (1862) might in fact be called a longitudinal fracture of the humerus, rather than a fissure, so widely separated are the two sides of the cleft. As, however, well-marked examples of fissure are found entirely independent of the lines of co-existing fracture, it would seem very reasonable to conclude that they may occur when no solution of continuity has taken place. The propriety of recognizing the second variety of fissure has also been questioned. Even if it should properly be regarded as but a longitudinal fracture, or at most an eccentric accessory, it still constitutes an interesting form of injury on account of its comparative rarity, and is of great importance from a clinical point of view.

A very perfect instance of this fissure, entitled Crack in the Neck of the Femur, is described and figured by Dr. H. J. Bigelow in his work on The Hip. No illustration can convey an adequate idea of its remarkable extent and elasticity. Starting from a transverse fracture eight inches below the trochanter, it runs spirally upward round the shaft and cervix of an unusually solid and large femur, and "terminates on the under side of the neck, in an S-shaped extremity, an inch from the point where the fissure crosses the inter-trochanteric line in front." It could undoubtedly be converted into a complete fracture with little force. The sides of the fissure are closely in apposition, but can be made to spring apart one eighth of an inch in the neck of the bone, even in the present dry state of the specimen.

The subject from whom this femur was obtained, a man forty-four years old, fell through two stories of a building, and died at the Massachusetts General Hospital eighteen days afterward. The specimen<sup>2</sup> is described in the Catalogue of the Warren Anatomical Museum, as also by Dr. R. D. Mussey<sup>3</sup> and by Professor Hamilton,<sup>4</sup> as well as by Professor Bigelow, in whose practice the case occurred.

Figures 1 and 2 of the accompanying drawings represent another

<sup>1</sup> Nouveau Dict. de Méd. et de Chir., article Jambe, 1874.

<sup>2</sup> No. 1055.

<sup>3</sup> Amer. Journ. of Med. Sciences, April, 1857.

<sup>4</sup> Fractures and Dislocations, 1875.

instance of this variety of fissure. They also represent a typical specimen of what has been called V-shaped Fracture of the Tibia.

The shaft of the bone exhibits a fracture at the junction of its middle and lower thirds, with the pointed and symmetrically V-shaped extremity of the upper fragment (Figure 1, *a*) received into a corresponding vacancy (Figure 1, *b*) in the lower. It will be observed by their relation to the malleolus that these V's involve the internal or subcutaneous surface of the shaft only, and do not trench upon the crest of the bone. The line of complete fracture, at an angle of about forty-five degrees, is uniformly and evenly spiral. From the apex of the V in the lower fragment there starts a fissure (Figures 1 and 2, *c*), continuous with the spiral line of the fracture, winding round the shaft to the peroneo-tibial articulation, and from this point traversing the extremity of the tibia to the base of the inner malleolus. This fissure, at its upper part, is joined by a second, beginning on the opposite side of the bone at the fracture (Figure 2, *d*), and circumscribing quite a large fragment, which, however, rests firmly fixed in place.

The patient from whom this specimen came was an intemperate woman, aged thirty-seven. The tibia was broken at its lower third, and the fibula at a point further down. There was no external wound, and but little displacement. Great swelling ensued, followed by abscesses and gangrene. The tibia protruded in front of the leg, and the fibula at the ankle. The constitutional symptoms were severe, and for a time the patient's life was in danger. She entered the Massachusetts General Hospital thirteen weeks after the accident, and I performed amputation through the middle of the leg. A good recovery followed.<sup>1</sup> The specimen is preserved in the Warren Museum.<sup>2</sup>

Figures 3 and 4 illustrate the third variety of fissure. They are taken from the tibia of a man, aged forty-one, admitted to the Massachusetts General Hospital<sup>3</sup> for compound fracture of the left leg, caused by the kick of a horse. I amputated the limb high up, a few hours after the accident, and a fatal result followed at the end of a week. The specimen is in the Warren Museum.<sup>4</sup>

The continuity of the bone is destroyed at two points. At its upper part by a spiral fracture, in the lower fragment of which a fissure (Figure 3, *b*) will be seen continuing the line of the break to a transverse and dentated fracture (Figure 3 and 4, *c*), where its further course is arrested. A second fissure (Figure 3, *d*) extends downward more than an inch from the last-named fracture.

The interesting feature of this specimen, however, is a series of radiating fissures at the lower part of the tibia (Figures 3 and 4, *e*), diverging in all directions, varying in depth, and opening and closing

<sup>1</sup> Records, vol. cxlii. p. 167.

<sup>2</sup> No. 3689.

<sup>3</sup> Records, vol. clxx. p. 61.

<sup>4</sup> No. 4740.

if the bone is twisted. This complex fissure has no connection with the fractures, its nearest approach being two inches distant. None of its lines encircle the shaft. They are confined to one half of its circumference, but can be traced longitudinally two and three quarters inches.

Figures 5 and 6 illustrate both the second and third varieties of fissure. They represent the tibia of a man who, in September, 1872, while suffering from delirium tremens at Deer Island Hospital, jumped from a window, ten feet above the ground, receiving a compound fracture. The knee-joint was also opened. I amputated at the articulation, a few hours after the injury, and the patient died twenty-four hours later.

The specimen, which was presented to the Warren Museum<sup>1</sup> by Health Commissioner S. F. Durgin, M. D., physician of Deer Island Hospital at the time of the occurrence, is described in the catalogue as follows: "In the upper half of the bone is a long, oblique fracture, having a sharp-pointed termination upon the crest of the tibia (Figure 5, *a*), at about its middle. A fissure (Figure 6, *b*) extends downwards nearly to the lower end of the bone, upon its outer face, and straight in its direction, but disconnected with the oblique fracture. Another fissure (Figure 5, *c*), of equal length, also linear in direction, descends on the internal surface of the bone, starting from the fracture of the shaft." A transverse section of the tibia shows that both fissures involve the entire thickness of the parietes of the bone.

The three specimens figured (all of which have been drawn by the accurate hand of Dr. H. P. Quincy), together with that of Professor Bigelow, to which allusion has been made, exhibit the co-existence of fissures with fractures, especially with those assuming a spiroidal direction. They present instances of spiral, of linear, and of irregularly shaped fissures, and also of fissures entirely disconnected with the lines of accompanying fractures. But no one surpasses in interest that which Figures 1 and 2 illustrate, namely, a fissure extending to the ankle-joint in connection with a V-shaped fracture of the tibia.

This form of fracture was first described by Gosselin.<sup>2</sup> It has an anatomy of fixed and absolute character, yet it has failed to attract the attention which its peculiarity and importance claim. Although French and German authors speak of it with more or less detail, no English or American work, so far as I am aware, makes any allusion to its existence.

At first sight there is little to distinguish a V-shaped fracture of the tibia from a common oblique fracture. In the latter the projecting point of the upper fragment is usually very sharp, and belongs to the crest of the tibia. In the former it is broad, never in the crest, but

<sup>1</sup> No. 3909.

<sup>2</sup> *Gazette des Hôpitaux*, 1855.

always in the internal, subcutaneous surface of the bone. The two sides of the point are of equal length, and are received into an open V in the lower fragment. The line of the fracture is invariably a spiral one, and the names "spiral" and "spiroidal" have been applied to it. But these have been objected to because they characterize nothing peculiar to this injury; whereas the term "V-shaped" designates that feature of the fracture, recognizable through the integuments, which reveals an important lesion that would not be suspected if this indication were wanting. Whenever this V is observed, there are always present: 1st, a serious disturbance of the medulla; and 2d, a fissure, starting from the apex of the V, winding spirally around the shaft, and extending to the articulating surface of the tibia, which it traverses. This fracture, therefore, is distinguished from all others by its stereotyped features, and the constant accompaniment of a fissure down to and into the ankle-joint. These characteristics are so unfailing that it is said, if you have seen one specimen you have seen all ("qui a vu l'un a vu l'autre"). The illustrations representing this fracture offer a striking uniformity. Gosselin, Follin, A. Richard (who gives four figures on one page), and the *Nouveau Dictionnaire de Médecine et de Chirurgie*, reproduce almost identical outlines. It usually occurs at the union of the middle and lower thirds of the bone. The fibula is commonly, but not always broken. The mechanism of its production is a matter of dispute. The splitting of the lower fragment by the wedge-shaped upper one, and the crushing of the medulla, resemble the well-known phenomena of impaction.

The specimens figured show, however, that a V-shaped fracture of the tibia is not the only one attended by prolonged fissure. Thus, in a common oblique fracture of the tibia, represented by Figures 5 and 6, the apex of the upper fragment being at the crest, there is a fissure, linear and not spiral, in the thin parietes of the shaft, which does not continue the line of the main fracture. Figures 3 and 4 represent a fracture high up in the tibia. The fissure which starts in the lower fragment is arrested in its progress by an intervening transverse fracture. Other fissures, disconnected with and below this fracture, extend their irregular outlines to the lower portion of the bone.

The conclusion to which we arrive is, therefore, that a fissure may exist undetected; but if, in a broken leg, the fracture is upon the internal, subcutaneous surface of the tibia, and its upper fragment reveals a broad and short V-shape, then the presence of this additional lesion may be safely assumed. Under these circumstances a tender and sensitive shaft, or a swollen and stiff ankle-joint have great significance, and lead to the suspicion of grave injury.

The peculiar shape of the broken bone in a V-shaped fracture makes it a matter of difficulty to keep the upper fragment in position. Slough

by pressure not unfrequently happens, and the simple fracture becomes compound, both fracture and ankle-joint being opened to the air. As a rule, a fatal result then takes place. Contusion of the medulla is quickly followed by suppurative osteo-myelitis if the air has access to it. The products of putrefaction in the oil of the medullary cavity appear to be specially deleterious, and provoke blood-poisoning with great rapidity. Fatty emboli, in a putrid state, have been repeatedly found in the lungs of patients who have died from V-shaped fractures. On the other hand, it may be kept in mind that the general prognosis is less serious than some of the early observations seemed to indicate. In spite of long delay, recovery often takes place in cases uncomplicated by a wound, leaving, however, a degree of stiffness in the ankle greater than usually occurs from the mere vicinity of a break.

Amputation is indicated whenever this fracture, at the time of the accident, or, at a later period, becomes compound. Gosselin, in his first paper, remarked that "he was almost disposed to say the complication of a wound was a piece of good fortune, since it spurred the hand of the surgeon, and made obligatory the amputation, which alone could save the patient's life." Verneuil states that he lost all the patients with compound V-shaped fractures whose limbs he tried to save, while two out of three amputations were followed by recovery. Poncet says that at the Military Hospital of Strasbourg three V-shaped fractures with wounds, but without much apparent injury, and which seemed to justify attempts at conservation, proved fatal. My own experience, limited to two cases, corroborates these observations.

A degree of irregularity of union attends the permanent consolidation of these fractures. Contrary to the general rule, by which the foot inclines to turn outwards, the foot here turns inwards. If the patient, lying down, is asked to put his feet side by side, he does so only by turning the knee and thigh outwards. Nor can he put his knees side by side except by turning the foot and lower part of the leg inwards. This distortion may be absent at the time of the injury, or, if present, is readily obviated; but, during treatment, the upper fragment of the tibia, and the thigh, little by little, rotate outwards, until, when noticed, the deformity is permanent. This result is stated to occur only in connection with a V-shaped fracture of the tibia. I have never verified this observation, but, if correct, it calls attention to a tardy diagnostic sign, which may throw light upon a protracted case, and moderate too sanguine expectations of speedy recovery.

Persistent pain often follows what may be called "recovery" from a V-shaped fracture. I have seen two instances where the contour of the united bones, together with the symptom just spoken of, led me to diagnose this injury. A deep-seated inflammation of bone, or of the periosteum, does not always betray itself by external signs; but

a lingering soreness in the tibia, especially if accompanied by pain and stiffness in the ankle-joint, may, in view of the facts here enumerated, find its explanation in the existence of this peculiar fracture.

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## ON THE TREATMENT OF THE CHANCROID.

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I AM aware that the subject of this article will seem to many of little interest and of slight importance, but as chancroids are by no means uncommon, and, except in the large medical centres, must come under the treatment of the general practitioner, and as the conclusions to which my experience in treating a large number of cases forces me are diametrically opposed to those generally received, taught, and practiced, and moreover as these conclusions, if correct, will save patients considerable pain, not to mention other advantages to be referred to hereafter, I have thought that perhaps a small part of the space in the JOURNAL might for once be taken from matters of more general interest.

By chancroid I mean the soft chancre as distinguished from the hard or indurated, the local venereal ulcer, or simply the chancre, as the modern German school has named it, arguing, with justice, that the term chancre, even when qualified by the adjective indurated, is not properly applicable to the primary syphilitic lesion, as this often consists simply of an indurated papule with the slightest erosion, and sometimes of the induration alone, with absolutely no lesion of continuity.

This ulcer of which we are treating has certain well-marked characteristics; it always results from direct contagion from an ulcer of the same nature, the only factor necessary for its genesis being the absorption of some of the secretion of such an ulcer by the skin or mucous membrane; it has an apparent period of incubation, varying from a few hours to several days; it begins as a small pustule, which is soon broken, and the base of which is seen to consist of a minute ulcer. This gradually spreads, circularly or elliptically when on a smooth surface, but is apt to follow the direction of any depression or fold in which it may happen to be situated, as in the sulcus at the corona, or in a fold of the mucous membrane of the anus; its edges are sharp cut, as if with a punch, and its base is covered with a dirty, yellowish-gray, pultaceous deposit which cannot be wiped off; and it secretes a purulent fluid which, inoculated on the patient or on another person, will reproduce an ulcer of the same sort. Having gone on increasing in size, more or less, according to circumstances, but usually not extending as deep

as the subcutaneous tissue, for the space of from four to six weeks, the base begins to clean up, and gradually takes on the appearance of a healthy granulating wound; the spreading at the periphery stops, and then the process of healing begins and proceeds exactly like that of any lesion of continuity of the skin caused by a burn or cut, and results in a cicatrix of fibrous tissue such as is always formed when the matrix of the skin, that is, the papillary layer, has been destroyed. In a certain number of cases, variously estimated by the writers on the subject, but according to the average estimate in about one case out of three, this ulcer during its course is complicated by an acute adenitis of an inguinal gland, sometimes on each side, which may result in suppuration. This adenitis may be either sympathetic, like that in the axilla after a bruise of the finger, or it may be due to the actual absorption of the virus of the ulcer by the lymphatics. This virus is arrested at the first gland with which the lymphatic vessels connect, and there sets up its specific inflammation, resulting in an abscess, which opens, and the pus from it possesses the specific property (the power of reproducing a similar ulcer when inoculated) of the chaneroid.

Such is a very brief description of this affection, which, it will readily be admitted, is one *sui generis*, having many marked individual characteristics, in the combination of which it differs from all other known forms of ulceration. From the anatomical situation of this ulcer, namely, on the external integument or mucous membrane, and the consequent ease with which it can be watched and studied, and from the fact of the possibility of its artificial reproduction by inoculation, it would be supposed that its history, course, pathology, and treatment would have been thoroughly investigated, and such is the case. Many able and careful observers have worked in this field, and the many inoculations made, either to settle the question of differential diagnosis between this disease and the syphilitic lesion, or during the investigation of the subject of syphilization, reaching in a case of Danielssen, of Christiania, the enormous number of four hundred on one patient, have resulted in a thorough knowledge of the ulcer from the moment of its first appearance to the end; and there are few subjects in medical science on which there is such perfect unanimity of opinion, with the exception of some differences in abstruse points of causation and specific nature which exist between the followers of the belief in the unity and those who believe in the duality of the virus, the former, however, being now reduced to a very small number of adherents.

With regard to treatment, even the believers in unity are in accord with the rest of the world, and the treatment universally taught is cauterization. By cauterization is not meant touching the ulcer with a crayon of nitrate of silver, but actual, destructive cauterization, for which purpose the whole arsenal of the strong acids, and caustic pastes, and even the actual cautery, have been recommended and used.



The theory of this treatment is that, as the chancre secretes a specific virus and shows a specific tendency to progress by the ulcerative process, by destroying the base and edges thoroughly we substitute for the specific sore an ordinary solution of continuity, which will show a tendency to repair by the usual process of granulation. And such in point of fact is the result generally when the cauterization has been properly done; when the resulting eschar comes off, the base looks healthy, and the process of granulation soon starts up. In some cases, however, the cauterization has to be repeated once or more before the ulcer loses its specific character. While all authorities admit that the chancroid as a rule is a self-limited disease, that is, that after a certain time it will, unless phagedæna sets in, stop spreading and gradually heal, it is claimed, and experiments seem to justify the claim, that the time required is from six weeks upwards, a period which is decidedly shortened by the caustic treatment.

Such being the case, what objections can be urged against this treatment?

In the first place it is quite painful, not so much so when there is one small chancre only; but when the ulcers are multiple, as they are apt to be, the pain may be very severe. It is true that we can use ether, but it must be remembered that giving ether in a hospital, where assistants and all the necessary adjuvants are at hand, is a very different thing from giving it in the physician's office. I hold that no patient should ever be etherized by a physician alone, and as most of these cases are treated in the office it would be necessary to call in an assistant. Much time is consumed, to say nothing of the liability to vomit and the very probable chance of the sphincters relaxing during or after the operation. Moreover, although we appreciate the great blessings of ether, it is often far from agreeable to take.

Secondly, the thorough cauterization of a chancroid is followed by considerable inflammatory action, and especially if it be on the prepuce, by œdema and swelling. Now in those patients whose prepuces are long enough to cover the glans the cauterization of chancroids on the glans and on the inner fold of the prepuce will cause enough swelling to produce an artificial phymosis, and thus we shall lose the great advantage which we have in treating an external lesion to which topical treatment can be applied.

Thirdly, the inflammation produced by the caustic is apt to cause an induration of the surrounding tissues, which it is sometimes impossible to tell from the specific induration showing constitutional syphilitic infection, and in this way we obscure our means of diagnosis on a point which is of great importance to the patient.

Fourthly, the bubo which we find in a certain number of cases of chancroid may be either specific, caused by the actual absorption of the

virus, or it may be what we call sympathetic, that is in some way due to the irritation at the seat of the ulcer. Now in the latter case it would seem that anything which increases the irritation must increase the chance of a bubo, and such I think is proved to be the fact by experience. I have no statistics to back the statement, but I feel sure that the percentage of co-existing buboes is greater in cases where thorough cauterization has been used than in those that have been treated in a milder way.

These four possible results of cauterization, namely, pain, swelling and phymosis, masking the diagnosis, and the greater frequency of sympathetic buboes, are surely, if correct, enough to induce us to employ some other treatment if we can find one that will be as effectual. Without giving exact statistics, I am confident that I am understating the number when I say that during the last two and a half years I have treated, at the dispensary and in private practice, five hundred cases of chancroid, and that I am overstating when I say that in that time I may have used actual or destructive cauterization in a dozen cases.

The treatment that I have adopted, wherever possible, is the use of iodoform, and with very good results. I will merely speak of three cases, the data of which I take from my private case-book.

A patient who had been under treatment for five weeks for a chancroid, which had been burned with nitric acid about three times a week, and which nevertheless continued to increase slowly, was sent to see me for consultation. The ulcer had attained the size of a thumb-nail. In one week of dressing with iodoform it was entirely healed.

In another case of four weeks' duration there were seven chancroids about the glans and prepuce, one of which had eaten through the frænum. These also were all healed in one week.

The third case is under treatment at present, having reported on December 14th. The patient came to me November 28th, with a series of chancroids in the furrow of the glans, which practically amounted to one surrounding the whole glans, and with seven others on different parts of the prepuce and glans itself. They were of only four or five days' duration and had received no treatment whatever. There was so much inflammation and redness of the prepuce, which was quite long, that it was with great difficulty that it could be retracted, and I am sure that any caustic applied would have made a phymosis that would have defied local treatment for at least a fortnight. On December 14th, the sixteenth day, the chancroids were all perfectly healthy granulating ulcers, and a swelling of an inguinal gland which had started up had gone down so much, that I removed the restriction with regard to exercise which I had placed on the patient.<sup>1</sup>

<sup>1</sup> On the 21st there was only one spot about the size of a pin's head that had not healed, and the patient was discharged.

I do not mean to say that these are three average cases, but I do mean that the duration of the disease has been less and the frequency of suppurating buboes decidedly less also than when I treated such cases by destructive cauterization. So sure am I of this fact that I have for some time been seeking to discover the why and the wherefore.

It does not seem possible that the large number of syphilographers in the last generation who have treated this subject experimentally should have accepted the fact that canterization was necessary, when such was not the case. Begging the question with regard to the correctness of my conclusions, and assuming that I am right in saying that at present, in the great majority of cases, chancroids will heal in from one to three weeks without canterization, the other possible alternative is that the character and virulence of this lesion has changed. This opens a vast field for speculation and study, with regard to the nature of which I will merely offer the following hints. The experiments in syphilization have shown that by repeated re-inoculation of chancroidal virus it gradually loses its power to reproduce a chancroid, and that a time will come when the pus secreted from the resulting ulcer has nothing to distinguish it from ordinary pus. Now admitting that every chancroid is the result of contagion from another, in other words that every chancroid has a parent, and estimating the average life of a chancroid from the time of its birth to the period when it gives being to another at one month, which is certainly a long interval, — admitting these statements I say, any chancroid that we see to-day, must have been the result of two hundred and forty inoculations in the past twenty years.

Clerc takes the ground that the chancroid, although a local disease, owes its being to the fact of the syphilitic virus being inoculated in somebody who had already been syphilized, and under the circumstances it merely produces an ulcer, which, in turn, can only reproduce a local lesion.

Bumstead admits that there may be some truth in this theory. If there is, may not the fact that syphilis is quite prevalent among people who have chancroids explain the still greater modification of the virus, so that it may gradually lose its power of even producing a virulent local disease? But these are mere hints of the train of argument and study that might be followed. In point of fact I have not seen, in the ten years during which I have been in practice, one single case where a chancroid has caused a sufficient loss of tissue to leave a deformity, whereas I do quite often see cases where a considerable part of the glans or prepuce has been destroyed by chancroids which existed twenty or thirty years ago. But to return to the point which I wish to discuss. I have found that the great majority of cases of chancroid do well without destructive cauterization. I am aware that it will be said, and with truth, that some of these cases may not have been chancroids, but irri-

tated abrasions, or herpetic ulcers, which would have got well if they had been let alone. Such cases, however, were certainly so few in number that they need not be taken into account. My attention was first called to the fact that chancroids would do well without cauterization by happening to have several cases under my care at the same time about three years ago, in which the existence of a phymosis, in some cases congenital, in others the result of inflammatory action, made it impossible to treat them by cauterization, and yet in time they all got well; and in those cases where the phymosis subsided the loss of tissue was not noticeable. The time required was from four to eight weeks. From the amount of pus, swelling, etc., in three of the cases at least, I was in great doubt as to whether I should not slit up the prepuce in order to be able to cauterize, and thus put a stop to the spreading of the ulceration, and had the tide not turned when it did, should have done so in one case certainly. Since that time, I have not used cauterization in more than a dozen cases. With regard to the use of iodoform, I hardly dare to claim for it a specific action in causing chancroids to heal quickly. No one can be more on his guard against the "post hoc, propter hoc" line of reasoning, and I regret to say that my faith in specifics is very small, or rather confined to very few; but on the other hand, when I have seen sufficient proofs that certain drugs do act in a certain way, and there is nothing in what I know of physiology, histology, or pathology to prove that they cannot act so, I believe that they do. For example, I never believed that iodide of potassium could cure an aneurism when the sac was once formed, nor that the chlorate of potash could cure an ovarian dropsy when the cyst was developed, although asserted by those to whose experience and judgment in most things I defer; but I not only believe, but know, that a mercurial, properly administered, will hasten the clearing up of secondary syphilitic symptoms, that iodide of potassium will cause a gummy tumor to be absorbed without breaking down and suppurating, and that a mixed treatment of the two will heal in two weeks a venereal ulcer that has been slowly spreading for months. In the same way I know that iodoform will in most cases cause a chancroid to heal in a very short time. It is not the only thing under the use of which it will heal, as I have tried, with success, black wash, astringent lotions, mercurial ointment, etc., but the difference in time is very decided. Nor are chancroids the only ulcers on which iodoform seems to have a marked curative influence, as I was led to try it by having had an epithelial ulcer heal very quickly after this drug was used as a dressing. The cure in this case, however, was of course only temporary. It may be used either pure, as a powder, or made into an ointment (3i—5i). The former is best where the ulcer is excavated, or the edges raised, as it can be sprinkled into the hollow places formed; the latter, when the

ulcer is not deep, so that when spread on lint the ointment can touch the whole of the sore. There is only one objection to the use of iodoform, and that is quite a serious one, namely, the very powerful and penetrating odor with which it is endowed. Patients who are using it constantly hear the persons they are thrown in contact with complain of the gas leaking, etc. By care, this may be somewhat modified by putting dry lint over the powder when that is used, and by using a larger piece of lint than is necessary to cover the sore when the salve is the medium employed, and by carefully washing the hands after renewing the dressings. Although in most cases the use of iodoform will succeed, there may be need of having recourse to the classical treatment of canterization, and in this case the selection of the caustic to be used is a matter of importance. For thorough and quick destruction of the tissues to which it is applied there is nothing so potent as pure bromine. It causes an instantaneous dry eschar, about a line in thickness, which on the third or fourth day falls off and discloses almost always a red healthy surface. It is, however, difficult to apply, as if too much is used it runs like liquid fire, shriveling up the tissues that it comes in contact with; moreover, the fumes are very irritating, and if inhaled while making the application will most effectually distract the surgeon's attention from his work to himself. It is best applied by means of a pipette or by a solid glass rod drawn out to a point. Another objection to its use is that it is not always easy to obtain. Fuming nitric acid I have found to be the next best caustic for this purpose, although the eschar formed is not nearly so thick. After applying it thoroughly, dry lint should be used as a dressing until the eschar comes off. Under no circumstances should nitrate of silver be used as a caustic in the treatment of chaneroids. It can do no good and may do harm. Unfortunately, with many physicians the routine practice seems to be, if they see an abrasion, or a tear, or an ulcer on the penis, as to the nature of which they are in doubt, to touch it with caustic as a preliminary step, and wait for further development. Later, the solid stick may be used with great benefit, if after the chaneroid has lost its specific character it has become a simple indolent ulcer, but the use of the nitrate then is to stimulate, not to destroy.

On reading over what I have hurriedly written, I see that I may perhaps have laid myself open to the charge of claiming originality in the views expressed. Nothing could be further from my thoughts. I have no doubt that many other observers have noticed that chaneroids heal without the use of caustics, and I know that iodoform has been used in their treatment. Indeed, Bumstead mentions incidentally, concerning the subject of phagedænic chaneroids, that he has used it with good effect, but nevertheless, as the fact remains that in all text-books canterization is laid down as the rule, and as in the periodical literature that

has come under my eye I have seen no other view advanced, and as I am convinced that in ninety cases out of a hundred, at the very least, it is not only unnecessary but injurious, I have attempted to give my grounds for this conviction.

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## RECENT PROGRESS IN MEDICAL CHEMISTRY.<sup>1</sup>

BY E. S. WOOD, M. D.

*Copper.* — MM. Bergeron and L'Hôte<sup>2</sup> have made a series of analyses for the purpose of settling the question as to the amount of copper normally present in the human body. About one half of the liver and one kidney were taken for analysis in each case. In two individuals seventeen years of age, copper was detected, although its amount was not estimated; in eleven persons aged from twenty-six to fifty-eight years, between 0.0007 and 0.0010 grm. was found in each case; and in one aged seventy-eight years 0.0015 grm. was detected. Copper was also found in six fœtal livers. They conclude, therefore, that copper is always present in appreciable quantity in the liver and kidneys, and they do not think that the amount of copper in the whole liver and kidneys ever exceeds two and a half to three milligrammes, and in most cases does not reach two milligrammes.

These gentlemen made the analyses of the organs of the two females in the "Moreau" poisoning case, and found in the liver an amount of copper corresponding to 0.119 grm. of the sulphate of copper in one case, and to 0.084 grm. in the other. They stated, therefore, that since so large an amount of copper was found, and because the symptoms were not inconsistent with acute copper poisoning, and a careful post-mortem examination failed to reveal a natural cause for death, a compound of copper must have been the cause of death.

L. M. V. Galippe<sup>3</sup> takes exception to the above conclusions of Bergeron and L'Hôte, and considers that an expert has no right to state that death has been produced by copper poisoning when such small amounts as the above are found, since much larger quantities have been detected in cases in which death has been due to natural causes. Thus MM. Bourneville and Yvon<sup>4</sup> found in the liver of an epileptic, who had during life been treated with the ammonio-sulphate of copper, and had taken forty-three grm. of this compound, 0.295 grm. of metallic copper, which corresponds to 1.166 grm. of the sulphate of copper, although the patient had taken no copper compound for three months before death. Yvon found in the liver of another person, who had

<sup>1</sup> Concluded from page 15.

<sup>2</sup> *Journal de Chimie médicale*, March, 1875, page 115.

<sup>3</sup> *Étude toxicologique sur le Cuivre et ses Composés*, Paris, 1875.

<sup>4</sup> *Journal de Chimie médicale*, May, 1875.

been treated during life with copper compounds, 0.236 grm. of metallic copper; Rabuteau found 0.239 grm., and Galippe himself found 0.310 grm., 0.220 grm., and 0.120 grm. of metallic copper in different cases.

From experiments upon animals and men, Galippe concludes that (1), except in cases of suicide, acute poisoning by compounds of copper ought not to be possible, both on account of the horrible taste which these compounds have, and on account of their emetic property, which causes the expulsion of the poison; and (2) poisoning of a mild grade is impossible, since according to his experiments upon animals, when small doses are given, tolerance of the system for the copper compound is established without any injurious influence upon the health.

*Arsenic.* — C. Husson<sup>1</sup> has made some experiments on the analysis of arsenic especially with a view to its detection in wines to which arsenical aniline colors have been fraudulently added. He finds that chemically pure fuchsine is innocuous, but that a large proportion of that made at the present time contains a minute amount of arsenic. The arsenic in fuchsine, or wine colored with fuchsine, is estimated by converting it to arseniuretted hydrogen in a Marsh's apparatus, and passing this gas through a standard solution of iodine in benzol.

The method of procedure is as follows: After decomposing the material and converting the arsenic to potassic arsenite or arseniate by the ordinary methods, the residue is dissolved in a little water, and the solution divided into two parts, one for the qualitative and the other for the quantitative analysis for arsenic. If arsenic is detected in the first portion, the other is introduced into a Marsh's apparatus, and the gas after passing through a drying tube is conducted through a succession of test tubes which contain varying but known amounts of iodine dissolved in benzol, and the amount of arsenic is calculated from the amount of the standard iodine solution which is decolorized.

The solution of iodine recommended is one which contains 0.10 grm. of iodine in 100 cub. cent. of benzol. The author finds that 0.01 grm. of arsenious anhydride transformed into arseniuretted hydrogen is decomposed by 0.02 grm. of iodine.

*Phosphorus.* — In the last report<sup>2</sup> some experiments upon animals were mentioned, which were made for the purpose of determining the length of time which must elapse before free phosphorus entirely disappears from the animal body in cases of poisoning. A case of phosphorus poisoning in a human being, which has an important bearing upon this question, is reported in detail by Dr. V. Elvers.<sup>3</sup> In this case free phosphorus was detected in the stomach and intestines eight weeks after death. The patient died on November 7, 1862, and the

<sup>1</sup> Journal de Pharmacie et de Chimie, October, 1876, page 294.

<sup>2</sup> The JOURNAL, July 13, 1876, page 36.

<sup>3</sup> Vierteljahrsschrift für gerichtliche Medicin, July, 1876, page 25.

body was buried. It was exhumed on December 19th. In performing the analysis for the metallic poisons it was noticed that, upon destroying the organic matter in the stomach and intestines and their contents in the ordinary way by hydrochloric acid and potassic chlorate, there were flashes of light such as are produced by free phosphorus. Upon performing Mitscherlich's test for free phosphorus with these organs on January 4th, the ordinary phosphorescent light was seen, and in the distillate from a part of the stomach and intestines with their contents there was obtained an amount of phosphoric acid corresponding to 0.0157 grm. of phosphorus, which calculated for the whole stomach and intestines gave 0.094 grm. as the amount of free phosphorus existing in those organs eight weeks and two days after death. No free phosphorus could be detected in any of the solid viscera.

*Mercury.* — O. Kalb<sup>1</sup> mentions a fatal case of chronic mercurialism, in which the tremor was so great that the patient could not walk or feed himself. After a few days in the hospital a condition of collapse occurred with a temperature of 43° C. (109.4° F.) in the rectum. Death took place on the following day. The autopsy revealed only moderate hyperæmia of the brain, and commencing pneumonia in the lower part of the right lung. Chemical analysis showed the presence of a large amount of mercury in the lung, but none in the brain, liver or bones.

*Poisoning by Nitrous Fumes.* — A. Tardieu and Z. Roussin<sup>2</sup> report a fatal case of poisoning by inhaling nitrous vapors. A workman employed in dressing morocco, during the preparation of one of the solutions used in the process, which was made by dissolving metallic iron in nitric acid or in a mixture of nitric and hydrochloric acids, inhaled some of the fumes arising from this mixture, and was found lying upon his back in the room, the air of which was strongly impregnated with the acid vapors. Death took place a few hours after. There was found upon post-mortem examination inflammation of the endocardium and almost complete destruction of the lungs. The lung tissue was so much softened in many parts that it had the consistency of a jelly; some portions of the left lung, where the normal structure was preserved, were much congested, and assumed a yellow color on being washed with a stream of warm water. The lung tissue and the bloody fluid which it contained had a strong acid reaction to test paper, and evolved an evident nitrous odor when a fresh section was made through the tissue with a knife.

Chemical analysis detected a large amount of free nitric acid in the lungs, so that there was obtained 1.41 grm. of sodic nitrate crystals, with which all of the tests for nitric acid were obtained. The acid could not be detected in any of the other organs.

<sup>1</sup> *Centralblatt für die medicinischen Wissenschaften*, 1876, No. 40, page 719.

<sup>2</sup> *Annales d'Hygiène*, October, 1875, page 345.



*Brucia*. — A. Flückiger<sup>1</sup> uses as a reagent for brucia a solution of mercurous nitrate, which does not at the ordinary temperature produce an orange color, as does free nitric acid, but upon warming gently over a water bath a beautiful carmine color is formed, which becomes deeper and deeper, and is very lasting. The red solution may even be evaporated to dryness without destroying the color. This is by far the best color test for brucia, since all of the others depend upon the production of passing colors.

This reagent does not have a similar action upon strychnia, so that brucia may easily be detected in the presence of strychnia, even if it exists in the proportion of only one part of brucia to ten or twenty of strychnia. The alkaloids of cinchona and opium, veratria, caffein, and piperin are not colored by the mercurous nitrate solution. It produces a somewhat similar color with albumen and carbolic acid, but these substances are not at all liable to be mistaken for brucia in a legal analysis, since they would be separated by the processes used for isolating the brucia, and, moreover, the red color produced by carbolic acid quickly changes to a brown.

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## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

MAY 13, 1876. The president, DR. HODGDON, in the chair.

*Imperforate Hymen; Accumulation of Menstrual Fluid; Operation; Recovery*. — DR. WINSOR, of Winchester, read the case, which will be published in a future number.

DR. WINSOR, in answer to questions, stated that the strength of the solution of bromo-chloralum used for injection in the case reported was one part to ten of water.

DR. CHADWICK asked if the experiment had ever been tried of treating the cavity by injecting it, immediately after complete evacuation, with an anti-septic fluid, and retaining it there till forced out by the tonic contraction of the parts involved in the dilatation. It is well known that all cases do more or less poorly after the operation from the septic influence of the decomposing fluid.

DR. LYMAN remarked that one of the later writers had suggested free incision and immediate and complete washing out of the contents of the cavity, as involving no more risk than the gradual process.

DR. CHADWICK spoke of the danger of admitting air, and thought the cyst might be immediately filled with a weak solution of carbolic acid or an equivalent preparation, whether the dilatation were, as it might be, of the uterus or vagina or of both.

DR. SINCLAIR said the symptoms in Dr. Winsor's case were evidently

<sup>1</sup> Archiv der Pharmacie, 206, page 403.

due to septicæmia and peritonitis, and that the abdominal tumors mentioned, as distinguished from the uterine tumor, were evidently the effects of peritonitis, by which serous effusions were retained in accidental cavities formed by peritoneal adhesions. Writers say that the contraction of the parts following evacuation of the contents, and the consequent dragging down upon the supports and attachments, with the resulting stretching and even laceration, are the cause of the peritonitis.

DR. FIFIELD concurred in this as the only reasonable explanation of the tumors. In ordinary protracted peritonitis one may meet with one or more tumors, fluctuating and perhaps capable of being emptied alternately one into the other by pressure. This was illustrated by a case which he had once seen with Dr. H. J. Bigelow. There were two fluctuating abdominal tumors of which the character was not satisfactorily diagnosed during life, but which were shown, on post-mortem examination, to consist of a collection of sero-purulent fluid roofed in by adhesions of the intestines to the abdominal peritoneum. The cavity thus formed was subdivided into a large and a small one, and fluid could be passed from one to the other by palpation.

DR. WINSLOR replied to questions that the septicæmia seemed to have nothing to do with the tumor. The peritonitis was not general, and the abdomen was not notably tender.

DR. CHADWICK said a tumor occurring subsequently to evacuation of the menstrual accumulation might be peritonitic, but he had never seen the history of a case which showed antecedent peritonitis. Of this there was lack of evidence; periodic abdominal pain being referable to obstructive dysmenorrhœa.

DR. SINCLAIR thought it might be difficult to separate the pain of limited peritonitis from the pain of the monthly strife.

*Atresia Ani Vaginalis.* — DR. TUCK read the case.<sup>1</sup>

DR. TUCK remarked that this deformity is described in Förster's *Pathological Anatomy*, but that it is very rare. Dr. J. B. S. Jackson had never seen such a case.

DR. LYMAN asked as to the propriety of attempting relief in this case by a surgical operation.

DR. TUCK replied that a prominent surgeon had advised against an operation on the grounds that it would be very difficult to keep the artificial anus from closing up, and that the patient was very comfortable in her present condition.

*Abscess of the Labium with Peculiar Symptoms.* — DR. MINOT reported the case of a respectable woman, a widow about thirty years old, whom he saw on account of enormous unilateral swelling of the genitals. There was no pain, and there had been no antecedent symptoms. The right side was perfectly normal; the left was very greatly swollen, the nymphæ resembling in size and even shape the adult human ear, while the labium majus was as large as the fist, and was neither distended, tense, shining, nor tender. The swelling was entirely external. The swollen labium looked like a great scrotum, œdematous, wrinkled, and rose-colored. The next morning the inner surface of the labium was everted, tense, and fluctuating. A puncture was made

<sup>1</sup> See JOURNAL for September 7, 1876, page 283.

which gave exit to half an ounce of dark, stinking matter. No cause could be assigned for the trouble; the disease was not furuncular.

*A Knot in the Cord.* — DR. GILBERT reported the case of a healthy woman who miscarried at six months. She had gradually, during twenty-four hours, missed the motions of the child, and during about a week before the labor there were no fetal sounds nor evidence of life. The delivery was not remarkable except that a knot was found tied in the cord, and had been the evident cause of strangulation of the child. The cord was turgid, and there were signs of decomposition.

DR. HOMANS related a case which he had seen three or four months ago. The labor, about five hours in duration, occurred at the end of nine months' gestation, and everything was natural except some special detention of the presenting head at the lower strait. The child was born dead, with the cord tightly drawn about its neck, and all pulsation had stopped. Death in this case was attributable not to the constriction of the child's neck, but to an arrest of the circulation in the cord itself.

DR. LYMAN said that on one or two occasions he had had fear of losing the child in consequence of the position of the cord about its neck, the face becoming more and more livid before the stricture could be relieved, but no serious result had happened.

*Forceps versus Turning.* — DR. FIFIELD stated that he had been interested in the discussion lately going on between Drs. Goodell and Wilson, of Philadelphia, in regard to the question whether to apply the forceps or perform version when the head is at or above the superior strait, having in view the comparative safety of the mother and child. Dr. Fifield had had, during the past fortnight, a case which had brought into consideration the comparative efficacy and safety of the two methods.

On the night of Thursday, May 4th, he was called to a patient, thirty-five years of age, in labor. The os would barely admit the finger. The membranes could be reached, but no presenting part could then be made out. After an hour or two the head, apparently, could be felt, but for still another hour there was no definite presentation. At this stage it was supposed that there might be a cord presenting with the breech, arm, shoulder, or some other unusual part. The pains continued slow and inefficient. Dr. Fifield waited another hour and then ruptured the membranes, and the pains then present disappeared. In order to restore the pains ergot was given, but with very little effect. After a while the head was found to be presenting, and a full examination was made by introducing the hand within the vagina. Dr. Fifield sent for Dr. Blanchard, in consultation, and it was decided either to turn or to apply the forceps at once, and the latter method was elected. The forceps were locked, but the child's head could not be made to advance in the least degree with all the efforts and appliances of the two attendants. Finally, during a strong effort, something appeared to give way suddenly, and the head was ascertained to be against the promontory of the sacrum. It was then found that this sensation was from the impingement against and the retreat from this process. At length the head did not recede, and a dead child was at last delivered. Dr. Fifield remarked that his fortune had been about

alike with the two methods of treatment, having delivered about as many dead children in one way as in the other, under the conditions stated at the beginning.

In reply to questions, Dr. FIFIELD said he thought the natural efforts were unequal to the task. The woman had already been in labor for some time, and her strength was diminishing. Where there is a disproportion between the head and the pelvis, and especially where the anterior fontanelle is toward the pubes, nature seems to recognize in advance the difficulty of driving the head through, and fails to make the ordinary efforts. Dr. FIFIELD remarked that Dr. JOHNSON and the Dublin school had vaunted this great discovery of the possibility of applying the forceps when the os is very little dilated, and observed that the operation had been performed for years in Dorchester. This discovery, if not very great, is a great saving of time and strength and leads to more recoveries.

Dr. MINOT inquired why the forceps were applied, the os being as yet only of the size of a quarter of a dollar, the pains feeble, and the pulse good; and asked what would have been the result if Dr. FIFIELD had waited another twenty-four hours.

Dr. FIFIELD replied that the pulse was quiet, and the child's face was toward the rectum. In this case there was a curious simulation of the symptoms of flooding, faintness, gasping, calling for air, etc., but it was altogether hysterical.

Dr. STEDMAN said that the operation referred to by Dr. FIFIELD had been done time and again in this vicinity, the os yielding before the advancing head in the same manner as when the fœtus is pushed against it. If the face is toward the pubes and the pulse goes up, no one would wait forty-eight hours. As to the choice between the forceps and turning, when the child lay high, there seemed to be none, a dead child being likely to result by either method.

Dr. FIFIELD, in answer to a question concerning the rate of the pulsations of the fetal heart, replied that it was not listened to. He remarked that Goodell speaks of Hodge, of Philadelphia, as being able to apply the forceps very dexterously to the sides of the head. Dr. FIFIELD confessed that he did not see how, when the head is above the brim of the pelvis, the forceps can be applied in any particular way with reference to the position of the head. If the blades are going to lock at all, they take their own course up the pelvic curve.

Dr. CHADWICK said that he had talked about forceps with Dr. Goodell, who advocated the application of the blades to the sides of the head in all cases, by which, in Dr. Chadwick's opinion, one loses the benefit of the curve and seems to pull at a disadvantage. Dr. Goodell also advocates pulling, not in the line of traction as indicated by the chord drawn from the grasp of the hand to the tip of the blades, but in the line of pelvic curvature and the general curve of the forceps, which produces the resultant force from the application of both hands to different parts of the handles, the distal hand exercising the direct traction, the other exercising force in a direction more or less downwards. Dr. Chadwick suggested that to this end the lateral curvature of the blades at the

tip should be made to correspond with the direction of the force, that is, that the radii of the curvature should be in the same plane with the actual line of force.

Dr. FIFIELD thought the method of Dr. Goodell, as detailed by Dr. Chadwick, a mistake. The lateral pendulum shake is also nowadays condemned. The main obstacle is overcome when, by a prying force, the head, rotating upon the promontory of the sacrum as a pivot, is made to slip past the pubes.

Dr. HODGDON said that he had had very great success in turning. He gave an account of a woman who in her first labor was delivered by craniotomy; in the second case there was the same condition of things as that described by Dr. Fifield. Dr. Hodgdon turned and delivered a living child, and the woman made a good recovery. In several instances of patients whose previous labors had been accomplished by the forceps, the children being still-born, he had succeeded, by turning, in delivering living children, and from his experience he would decidedly give the preference to the latter method.

Dr. WINSON said that in a certain case of turning he had received great assistance from pressure upon the head by the strong hand of the patient's husband. The child was dead.

Dr. FIFIELD reported the case of a patient who in her first, second, fourth, and fifth labors was delivered by craniotomy, by different physicians. The third labor was premature. At the sixth labor he turned and delivered a living child.

*Sudden Death from Chloroform during Labor.* — Dr. COTTING remarked that since he came to this meeting an account of a case of death from chloroform during delivery had been shown him in the last number of the *London Lancet*, and stated that he had himself had, a number of years ago, a case in which death was probably due to the same agent. The patient was a primipara, aged twenty-two. The labor was going on well, and the head was apparently on the point of emerging, when the patient had a slight convulsion. Chloroform was administered, and, the pains returning after a while, the administration was repeated. The head was got away and the uterus was contracting well, when a tremor occurred and the pulse ceased. The patient was dead. At the time of this occurrence there appeared to be no obvious cause of death; since then, as chloroform has been found to be frequently fatal, Dr. Cotting has been more and more of the opinion that death in this case resulted from the use of this anæsthetic.

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#### PETERSEN'S HISTORY OF MEDICINE.<sup>1</sup>

THE work before us is a remarkable one which we confidently recommend to those who are interested in the history of medicine. This is a branch of literature that receives comparatively little attention. It is an instructive, but to us an intensely melancholy study; every line suggests the spirit of

<sup>1</sup> *Hauptmomente in der geschichtlichen Entwicklung der medicinischen Therapie.* Von Dr. JULIUS PETERSEN. Copenhagen: Andr. Fred. Høst & Sohn. 1877. (Translated into German from the Danish.)

Goethe's Faust, of enthusiastic endeavors, ingenious theorizing, patient working, and, above all, of the hope deferred that maketh the heart sick.

"Oh, happy he who still renews  
The hope from error's deeps to rise forever!  
That which one does not know, one needs to use;  
And what one knows, one uses never."

The work is divided into two chief parts, the former being devoted to the dogmatic tendencies of medicine, and the latter to the empiric and rational empiric systems. The former comprise the various steps of medicine through superstition, quackery, and error. The different kinds of each of these attributes are philosophically separated one from another, and the study of them is made truly interesting to the close reader. As a favorable instance we may mention the passage describing the supposed conflict between life and disease: "Diseases which can only attack matter nevertheless impair the freedom of the spirit, which consequently labors with all its force to expel them, and the struggle is manifested by the symptoms of the illness. . . . In all fevers one sees clearly the energetic efforts of the vital force. After the entrance of the morbid agent the processes of life spring into increased action; the heart and the pulse beat quicker, the breathing is hastened, the heat increased, the skin becomes red and turgid. How suggestive is this picture of a fight with the intruding foe! At last the condition improves simultaneously with an eruption on the skin, a heavy red deposit in the urine, or a profuse sweat; the conflict is over, the godlike principle of life has triumphed, and the enemy is expelled. The *vis medicatrix* has thus manifested itself in the symptoms." Such views are not yet obsolete even in the profession; since beginning this notice we have received a pamphlet, the writer of which maintains, concerning fever, "that it is always nature's supreme effort to save life and prevent the modification of tissues constituting chronic disease, or organic disease, so called." After discussing the various forms of error, the author comes to the nihilism beyond which he thinks we have now passed. He touches on sanitary medicine, and speaks more hopefully of the future than the nature of the mass of the book would lead us to expect. The author's idea of the physician of the future is what Mr. Pecksniff would call a "prismatically tinged" one. "It is by no means enough for him to study the structure of the human body and its action in healthy and diseased conditions, nor to exercise himself in surgical technique, or in the art of prescribing. The physician must make his way into the thousand fold relations of civilized life, and penetrate to the highest and lowest spheres. He must be familiar with movements of thought and with their mode of development, and must have a clear appreciation of the results and present bearings of the natural sciences. The 'nihil humani a me alienum' applies most fully to him. He must have not only the sharp eye of an observer, but all his moral organization must be highly and harmoniously developed both in respect to the feelings and the reasoning power."

This is all very fine, but who is to take care of the sick while this Daniel Deronda is perfecting his perfection? Or, if he can find time to leave his philosophy, is he the man who can best see to the comfort and welfare of his patient? There is no more difficult question in medical education than what is the proper relation between abstract science and applied empiricism. This book certainly does not solve it, but it gives much food for thought.

DEFRESNE ON PANCREATINE.<sup>1</sup>

A CAREFULLY conducted summary of the physiological action of the pancreatic juice precedes the consideration of its remedial use in impaired digestion. This summary presents a very clear account of our present physiological knowledge of the subject, which it is hardly worth our while to repeat in this short notice of M. Defresne's *brochure*. Assuming that pancreatic juice, apart from its property of reducing fats to the condition of an emulsion and of decomposing fat globules into glycerine and fatty acids, has also the power of digesting albuminoid substances, M. Defresne asserts that his experiments prove that this digestion is retarded by the presence of free acid, and is assisted by the presence of a weak alkali. Thus, if the chyme coming from the pyloric orifice contains an excess of the acid belonging to gastric juice, or of the acids set free from alimentary substances, the further digestion of albumen by the pancreatic juice is thereby hindered. Upon this physiological fact he bases the therapeutical uses of prepared pancreatine.

M. Defresne extracts pancreatine in the following manner: Fresh pancreas is bruised and placed with ether in a vessel, and then carefully subjected to a temperature of 45° C. (113° F.) for twenty-four hours. The floating portions are skimmed off, and the fluid residue is evaporated by a strong current of air heated to a temperature of 40° C. (104° F.); this evaporation should be concluded in one hour.

Pancreatine thus obtained is a yellowish powder and has a fresh animal taste. Its solution in water is viscid. Alcohol will precipitate the pancreatine from the aqueous solution; this precipitate contains the active principle of the ferment, whilst the alcoholic solution has none of its digestive properties. Pancreatine loses its active properties at a temperature of 70° C. (158° F.). Strong acids and alkalies also injure pancreatine in solution, whilst dilute acid and weak alkalies only temporarily affect it.

Speaking of the elixirs of pancreatine, M. Defresne states that tannin is precipitated by albumen, whilst the pancreatine is precipitated by alcohol. Thus a vinous elixir containing tannin precipitates the albuminous substance, especially if it contains more than eight per cent. of alcohol. However, an elixir of pancreatine which contained only eight per cent. of alcohol was prepared by M. Defresne, and preserved its digestive properties for a year and more. His elixir is made according to the following formula:—

Pancreatine . . . . .	4 grammes.
Dry white wine . . . . .	150 "
Crystallized sugar . . . . .	175 "
Tincture of coffee. . . . .	10 "

Each teaspoonful contains 0.25 of pancreatine. His emulsion of pancreatine and cod-liver oil is made as follows:—

<sup>1</sup> *Recherches expérimentales sur le Rôle physiologique et thérapeutique de la Pancréatine.* Par TH. DEFRESNE, Pharmacien de première Classe, etc., etc. Paris: A. Delahaye. 1875.  
*Experimental Investigation on the Physiological and Therapeutical Action of Pancreatine.* By TH. DEFRESNE. Paris: A. Delahaye. 1875.

Cod-liver oil . . . . .	1000 grammes.
Pulverized pancreatine . . . . .	40 "
Simple syrup . . . . .	300 "

Digest and shake frequently for twenty-four hours, and add cherry-laurel water 9.50 grammes.

His pills are made after the following prescription:—

Pancreatine . . . . .	4.00 grammes.
Honey . . . . .	.50 "
Simple powder . . . . .	q. s.

Mix and divide into twenty pills; two or three pills at a dose.

With regard to its therapeutical action, M. Defresne's theory may be thus expressed: Bile has the effect of reducing fat to the form of emulsion, and the pancreatic juice reduces the further decomposition of emulsified fat—as for instance, oleate, margarate and stearate of glycerine—to a more simple form similar to the molecular association of carbon and hydrogen, thus favoring the easy development of animal heat. Those diseases which seem to be the outgrowth or the cause of loss of tissue nutrition may be benefited by the therapeutical use of arsenic, alcohol, digitalis, which retard circulation and tissue metamorphosis; but the use of fats and their further digestion and decomposition by the artificial administration of pancreatine add simple materials whose combination promotes animal heat without calling upon the fat already stored up as tissue, and thus facilitates constructive metamorphosis.

We would like, if space were allowed, to discourse more at length in regard to the observation suggested by our author: that the presence of too much acid in the chyme, proceeding either from the gastric juice or from the fermentation of food in the stomach, will prevent the action of pancreatic juice in the digestion of fats, and hence will produce obstinate dyspepsia unless fatty food be abstained from. A discussion of this part of his argument would give the indications for the proper time of administering the pancreatic ferment. A.

## ATHLETIC SPORTS.

THE recent action of the commissioners of licenses in prohibiting all wrestling and sparring matches in this city might be looked upon as a suggestive comment upon the tendency of many athletic sports at the present time. The immediate cause of this action was the death of a young man immediately after the conclusion of a contest with "Liverpool gloves," which took place last week. In the present case the contest partook so largely of all the characteristics of a prize-fight that the action of the commissioners seems eminently proper. We feel, however, that the innocent have been made to suffer with the guilty by including the wrestling exhibitions, which have lately become so fashionable, under the same ban. The "Græco-Roman" encounters are undoubtedly not without danger, even when the participants are professional. Other methods of wrestling have less objectionable features, and the sport possesses all the attractions of a reality without any of the brutalizing characteristics of the ring.



While, therefore, we should regret to see any legislation tending to discourage athletic sports, we are glad of an opportunity to sound a note of warning against an indiscriminate participation in many of the games which are now rapidly becoming popular.

Until within late years there were few countries which gave so little encouragement to the various forms of open-air exercise as our own. The innumerable games in which the Englishman is proficient were either unknown or despised by the young man who had outgrown his school-days. This apathy regarding physical development has given way to the influence exerted chiefly by our university youth, among whom athletic sports, games of all kinds, boating and racing, prevail to an extent that would have been thought hardly possible a few years ago. Every new season brings with it some new importation. Schools are feeling the influence of this movement, and physical training is assuming a prominence in the education of our youth proportionate to its importance. Running to extremes, as we are apt to do in this country, it is to be feared that too much license may be permitted in these apparently more harmless sports as well as in those which are the property of professionals. The game of football, for instance, would seem as innocent an amusement as could well be devised, but, as at present played under the Rugby rules, affords as little protection to the participant as the "Liverpool gloves." Our English exchanges have within the last year or two pointed out the dangers of this game. There have been several fatal accidents in the foot-ball field, and the number of broken arms, legs, and collar-bones has grown alarmingly great. We know of quite a number of young men in this city who are now convalescing from injuries received during the autumn. A set of rules originally designed for small boys has been used indiscriminately by light and heavy weights. The game as now played would seem to combine all the dangerous features of sparring, wrestling, and the French method of friendly combat, kicking. We would urgently warn parents against the dangers of this game, which has crept amongst us like a wolf in sheep's clothing. We trust that no vicious rules will render unpopular any of those sports which are becoming so desirable a feature of college and school life.

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#### MEDICAL NOTES.

—We make the following quotation from the message of the governor of Massachusetts, showing him to be fully in sympathy with the views expressed in a recent number of the *JOURNAL*. The matter having been thus formally brought to the notice of the legislature, we may indulge in the hope that active steps towards reform in our coroner system may soon be taken.

"I desire to call your attention to some needed changes in the statute respecting the appointment and the powers and duties of coroners. At present the number who may be appointed is unlimited, and has been extended far beyond reason or necessity, and has sometimes included persons incompetent and unfit for the legitimate duties of that office.

"In London there are but four coroners; in New York, four, and four assist-

ants. In Brooklyn, Philadelphia, New Orleans, and Chicago, two each; in Baltimore, Washington, Cincinnati, and San Francisco, one each, making a total of twenty-four; while in Boston alone there are forty-three, and in Suffolk County forty-seven. The powers and duties vested in coroners are highly important, and their abuse frequent and dangerous. They embrace both the functions of physician and judge, and it is said that even the verdicts of juries are sometimes framed by the coroner himself. No process of removal of an unfit coroner now exists, excepting by address of both houses of the legislature to the governor and council, and this is impossible during a large portion of the year."

— The library of the late Professor Traube, Berlin, consisting of 4042 numbers, or about eight thousand volumes, has been catalogued by Hirschwald, and is offered for sale. Among the journals are *Annalen d. Charité* from 1850 to 1870; Virchow's *Archiv f. patholog. Anatomie u. Physiologie* from 1847 to 1876, entirely complete; Canstatt's *Jahresbericht d. gesammten Medicin*, from 1842 to 1876; Schmidt's *Jahrbücher d. in- u. ausländ. gesammten Medicin*, from 1834 to 1875; and *Transactions of the Pathological Society of London* from 1847 to 1875, which last is nowhere so complete.

— An unusual interest has been created over the successor of the late Professor Simon, of Heidelberg. A semi-official telegram from Stuttgart early in October announced Professor Lücke, of Strasburg, as most likely to take the vacancy. It is, however, authoritatively denied, and Professor Czerni, of Freiburg, Baden, has accepted the call, and has already entered upon the duties of the chair.

— *The Clinic* appears in new and improved form, and in future will be conducted by Dr. Roberts Bartholow, editor in chief, and Dr. James G. Hyndman, managing editor.

— The Hunterian Oration recently delivered by Dr. Sutton and published in the *Medical Times and Gazette* of December 2, 1876, is something more than a restatement of Hunter's life and work. Referring to the object of the Hunterian Society, the orator says, "The society could much more easily erect 'a tardy monument to buried dust,' could delineate the character of the man, and devotedly describe his work, but devotion which does not multiply exertion is not a high attribute. We shall doubtless, therefore, all agree that the original founders of this Oration wisely intended that the orator should endeavor to search beyond generally accepted opinions, and in so doing exemplify that the spirit of the great dies not, that the power transmitted by a great mind like Hunter's is not only accumulative but illimitably reproductive. It is a great road-maker into the unknown."

Dr. Sutton holds that "the doctrine of man's assumed independence of, and abrupt limitation from his surroundings is untrue; our belief in it is founded on insufficient observation, and derived from too restricted reasoning. Yet on this received belief of human independence is based the present doctrine of human responsibility. And the belief acts injuriously, for it prevents persons searching to find out the causes of human conduct, good and injurious." He further attempts to show that "the moral and physical are inseparable and correlated, that abnormality in the physical necessitates aberration in the

moral, that healthy feeling and right doing, disorderly feeling and wrong doing, are related as cause and effect."

If it be objected that man's sense of his responsibility must be diminished and evil doing promoted by the belief that feeling, not knowledge of right and wrong, chiefly governs conduct, the orator asks whether the opposite teaching has sufficiently prevented evil doing. After inviting the attention of those who take an opposite view to the doctrines he has advanced, Dr. Sutton concludes with the expression of his belief that his observations will have been useful if they enlist the attention of members of the profession, who have very many opportunities of showing persons that their feeling must be healthy if they would act rightly. . . . "We perhaps cannot sufficiently teach," says he, "that it is not enough to educate persons, in the ordinary sense of the word, make them intelligent and know much; their feelings also must be trained healthily if they are to act properly." That is all, no doubt, but how, according to Dr. Sutton, is it to be done?

— In a suit for libel recently tried in England the defendant, *The Medical Press and Circular*, was fined fifty pounds and costs. The offense of this journal was a denunciation against the course of a Mr. Betts, who published a circular offering his advice, with medicine, for the low fee of fourpence. *The Medical Press and Circular*, having seen the handbill of Mr. Betts, naturally regarded it as derogatory to the profession, "and," says *The Medical Examiner*, "in the course of some indignant remarks asserted that good medicines could not be supplied at that price at a profit, winding up — perhaps unfortunately — with the word 'dodge.' Demand for retraction having been refused, the action was brought, with the result stated. Dr. Jacob, the writer of the article, and chief editor of the journal, appeared in court, and testified that he had no personal knowledge of the plaintiff, and wrote solely out of consideration for the good of the profession and the public. He testified, too, to his honest belief that valuable medicines could not be retailed at a commercial profit on such terms, and spoke of hospitals where he knew the drugs to be a heavier item of the expense. Other evidence was also tendered to show that hospitals expended more than fourpence per case on drugs. But in spite of this, and of the eloquence of the counsel, the jury decided against our contemporary, and so, we presume, it may be considered dangerous to declare that no one can profitably practice medicine at rates which nearly all medical men find to be impossible."

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## MASSACHUSETTS GENERAL HOSPITAL.

### MEDICAL CASES OF DR. MINOT.

*Hemiplegia; Nearly Complete Recovery.* — Mary A., ladies' hair-dresser, forty years old, entered the hospital March 16, 1876. Her health was always delicate; she had been married twenty years, had one child nineteen years ago, and was confined a second time three weeks before her entrance, at the Boston Lying-in Hospital. Child living and healthy.

After having complained for several days of severe pain in the back part of the head and neck, she was seized quite suddenly, on March 12th, with complete loss of power in the left arm and leg, without loss of sensation. On entrance there was some slight movement about the left shoulder, and she could draw up the left leg a little, slowly. Sensation and reflex action of the arm and leg were normal. The left side of the face was paralyzed, and the tongue was pushed towards the left when protruded. There was no paralysis about the eyes or eyelids. The speech was slow and somewhat embarrassed; no difficulty in swallowing; no paralysis of sphincters. There were no cardiac murmurs. The pain in the back of the head continued for several days after her entrance.

She improved slowly at first, afterwards more rapidly. On April 3d she could walk a few steps without assistance; on the 7th she walked about the ward with the assistance of one person, and on the 14th without any assistance. The arm recovered much more slowly; on March 29th there was scarcely any movement of the limb, but May 22d, when she was discharged, it had gained a good deal. She continued to improve, and when last seen, December 19th, she was out and about, and had very good use of the arm. There was still some facial paralysis.

The treatment was expectant, but electricity was employed.

*Paralysis of Syphilitic Origin.* — Alexander T., thirty-eight years old, widower, shoemaker, entered the hospital April 20, 1876. He had been subject to no particular exposure, and was of temperate habits. Fifteen years before he had had a chancre, followed by secondary symptoms. He had been quite well up to four weeks before entrance, when, after getting his feet wet, numbness and weakness came on in his legs and arms, obliging him to give up work, although he was able to be about. He gradually became weaker, and the day before his entrance he entirely lost the use of the left leg and arm, and also, to a much less degree, of the limbs of the right side. No loss of sensation; some difficulty in speech, and twitching in left arm; no trouble in bladder or rectum; no cough.

The tongue was protruded straight. The mouth was drawn to the right side when the patient smiled. There was no difficulty in chewing, but the movements of the tongue were a little awkward. The eyes closed equally well. Sensation perfect everywhere. No pain in head. The patient had no power over the left hand, fingers, or fore-arm, but he could raise the arm from the shoulder. He was unable to stand or to walk, but could raise the left limb while sitting in a chair. He said he had been troubled with vertigo for years.

He was treated by the biniodide of mercury with iodide of potassium, by pulvis ferri, and by electricity. A good diet was allowed. The power of the left leg and arm returned rapidly, and when he left the hospital, June 14th, he was nearly well.

*Pleurisy; Paracentesis; Recovery.* — Charles H., hair-dresser, thirty-eight years old, married, entered the hospital March 22d. He had "lung fever" three years ago, and has not been well since. Two weeks ago, without known cause, he was seized with chills, fever, headache, cough, slight whitish expecto-

ration, and considerable dyspnœa. At entrance he was prostrated, without appetite, constipated, and was unable to lie on the right side on account of pain. The tongue was dry and brown. Pulse 94; temperature 99.2°; respiration 38. There was dullness on percussion throughout the right chest, but some respiration could be heard in the upper part.

There being no improvement in the symptoms, the patient was tapped, March 29th, and two and a half quarts of clear serum were drawn off. The dullness in the back immediately gave way to resonance. Bronchial respiration was heard in the lower two thirds of the back, and vesicular respiration in the upper third. He was relieved of his dyspnœa, and improved daily. He was discharged, April 11th, in a very satisfactory condition, the difference in percussion between the two sides having disappeared in front, though evident behind; the respiration was also fair on the affected side, and there was no dyspnœa.

*Empyema; Treatment by Drainage; Recovery.* — William W., a laborer, of temperate habits, was always much exposed to weather, but never had a sick day in his life until twelve weeks before his entrance into the hospital, which was on the 26th of May, 1876, when after getting wet and chilled, febrile symptoms came on, with "catching pains" in the left side, cough, slight expectoration of frothy matter, and some dyspnœa. He kept about his work for two weeks, and was then obliged to give up and take to his bed, to which he was confined until he entered the hospital. The cough increased for six weeks previous to his entrance, and the expectoration became profuse and mucopurulent. The dyspnœa also somewhat increased, and he lost flesh and strength rapidly. There was some swelling of the feet. Appetite good; sleep poor; bowels regular. Pulse 106; temperature 99°; respiration 40.

The impulse of the heart was felt below the xiphoid cartilage; sounds loudest an inch to the right of sternum, at level of fourth rib. There was complete flatness on percussion, and absence of vocal fremitus, in every part of the left chest, front, back, and side. No respiration was to be heard in any part of the left chest, except just below the clavicle, where there was distant bronchial respiration and abundant moist crepitation; also between the scapula and spine, on the left side, the respiration was tubular, with some crackling. The same side was somewhat dilated (to the eye), and the intercostal spaces were obliterated. No râles were heard anywhere on the right side. There was abundant expectoration of thick, greenish matter; considerable emaciation; fingers clubbed.

The chest was tapped May 27th, and two quarts of inodorous pus were withdrawn by means of Bowditch and Wyman's syringe. June 1st an opening was made four inches below the angle of the left scapula, and a drainage tube was put in. The chest was washed out twice daily with a weak solution of carbolic acid. The cough immediately diminished, the pulse daily became slower, and the patient was up and dressed. The discharge having nearly ceased, the tube was removed June 20th, and the opening healed in two days, when the patient was able to go home, "much relieved," July 6th. There was only partial expansion of the lung at the time he left the hospital. The heart had returned to the left side, but there was dullness on percussion and absence of

respiration in the lower half of that side. There was a decided curvature of the spine, with concavity to the left. His general condition was very satisfactory. A few weeks later he was heard from as "well," and at work.

*Cironic Gastric Ulcer.* — Mary W., aged forty-six years, widow, entered the hospital March 20, 1876. She has had eight children and three miscarriages. She was always healthy and strong up to one year ago, when she began to have pain in the epigastrium, with nausea, headache, eructations of gas, vomiting of food, and on several occasions vomiting of blood, but the latter was not copious. The pain came on chiefly about five or ten minutes after eating. She had kept her bed most of the time for the previous two or three months, had lived almost wholly on gruel, and had lost much flesh and strength. The catamenia ceased a year ago. The bowels were costive; sleep poor; temperature and pulse normal. There was considerable general tenderness in the epigastrium, most marked below the xiphoid cartilage. Tongue moist, with thin, brown coat.

She was put upon a careful regimen of milk, beef-tea, and bits of ice, with lacto-peptine, bismuth, and mild laxatives. Under this treatment she improved rapidly, and left the hospital, April 7th, "much relieved."

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## THE METRIC SYSTEM IN PRESCRIPTIONS.

MESSRS. EDITORS, — The article by Dr. A. N. Blodgett in the number of the JOURNAL for December 21st shows some of the difficulties which will have to be encountered in introducing this system for use in prescribing. From the pharmacist's point of view there are also some difficulties which should be obviated if possible. The apothecary wishes to know exactly what quantities the physician intends. Dr. Blodgett states that "the druggist is expected to know how to dispense the articles without the special signs gmm. or c. c., and to understand solids as prescribed in grammes and liquids in cubic centimetres." Another Boston physician, one who has had considerable experience in the hospitals of Europe, understands that all quantities of liquids expressed in the metric system, with figures simply, mean grammes by weight; that he is accustomed to expressing quantities in his prescriptions in the metric system, and has supposed that all the substances were weighed, liquids as well as solids. Articles have recently appeared in some of the New York medical journals which seem to indicate that the intention of prescribers is to have everything weighed.

This diversity of opinion is mentioned to show that it would be well if there could be a distinct understanding as to what is meant by the figures when used without the special signs gmm. or c. c.

It would seem to be much easier for the physician to prescribe liquids by measure than by weight; it would certainly be much easier for the pharmacist to dispense them so. Until concerted action can be established, by the medical societies or otherwise, it would relieve the pharmacist of doubt if the special signs gmm. should be used to indicate quantities by weight and c. c. to indicate quantities by measure.

A TABLE FOR REDUCING TROY WEIGHT TO GRAMMES.

Troy Weights.	Gramme Weights.	Troy Weights.	Gramme Weights.
Grain $\frac{1}{17}$	.006	Grains 80	5.18
" $\frac{1}{8}$	.003	" 90	5.83
" $\frac{1}{6}$	.011	" 96	6.22
" $\frac{1}{4}$	.016	" 100	6.48
" $\frac{1}{3}$	.022	" 120	7.75
" $\frac{1}{2}$	.032	" 150	9.72
" 1	.065	" 160	10.37
" 2	.13	" 180	11.66
" 3	.19	" 200	12.96
" 4	.26	" 240	15.55
" 5	.32	Drachms 6	23.3
" 6	.39	" 8	31.1
" 8	.52	" 10	38.9
" 10	.65	" 12	46.6
" 12	.78	" 14	54.4
" 15	.97	" 16	62.2
" 16	1.04	" 20	77.7
" 18	1.17	" 24	93.
" 20	1.29	Ounces 4	124.
" 24	1.55	" 5	155.
" 30	1.94	" 6	186.
" 36	2.33	" 7	217.
" 40	2.59	" 8	248.
" 50	3.24	" 9	279.
" 60	3.89	" 10	311.

TABLE FOR REDUCING FLUID MEASURE TO CUBIC CENTIMETRES.

Fluid Measure.	Cubic Centimetres.
Fluid Drachm $\frac{1}{12}$	1.84
" 1	3.69
" $1\frac{1}{2}$	5.53
" 2	7.38
" $2\frac{1}{2}$	9.22
" 3	11.07
" 4	14.76
" 5	18.4
" 6	22.1
" 7	25.8
Fluid Ounce 1	29.5
" $1\frac{1}{2}$	44.3
" 2	59.
" 3	89.
" 4	118.
" 6	177.
" 8	236.
" 10	295.
" 12	354.
" 16	472.
" 20	591.
" 24	709.
" 30	886.
" 32	944.

For the convenience of those who wish to become more familiar with the equivalents in the metric system of quantities in common use in prescriptions in the old system, the accompanying table is appended. This table has been prepared by Messrs. T. Metcalf & Co., and copies of it will be freely furnished by them.

THOMAS DOLIBER.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 30, 1876.

	Estimated Population, July 1, 1876.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1875.
New York	1,061,244	473	23.18	20.35
Philadelphia	825,594	318	20.03	22.24
Brooklyn .	506,233	190	19.52	24.92
Chicago .	420,000	178	22.04	19.75
Boston . .	352,758	146	21.52	26.20
Providence	101,500	24	12.29	19.02
Worcester .	51,087	17	17.30	20.91
Lowell . .	51,639	20	20.14	20.55
Cambridge	49,670	13	13.61	23.31
Fall River	50,372	14	14.45	23.99
Lawrence .	36,240	17	24.39	25.96
Lynn .	33,548	13	20.15	19.23
Springfield	32,000	8	13.00	20.93
Salem . .	26,344	9	17.76	22.92

Normal Death-Rate, 17 per 1000.

OBITUARY. — At an adjourned meeting of the Middlesex East District Medical Society, held at Winchester December 28, 1876, the following resolutions were offered:—

*Resolved*, Having by the death of Dr. Alonzo Chapin, of Winchester, lost our oldest member, and one whom we all honor and sadly miss, we wish to express our deep sense of his kindness of heart, his manly uprightness and energy, and his honorable and faithful discharge of his professional duties, both to his patients and to his medical brethren.

He will long be regretted in his church and in his town, but nowhere, outside of his own family, will he be so missed as by us his fellows and friends of the Middlesex East District Medical Society. We most sincerely assure his family of our sympathy. In view of their sacred sorrow it becomes us to use few and simple words, but these come from our hearts. May the God whom he trusted and served support them.

*Resolved*, That a copy of these resolutions be sent to the family of the deceased, the Boston Medical and Surgical Journal, and the *Woburn Journal*.

J. RICHMOND BARSS, *Secretary*.

### THE METRICAL SYSTEM IN PRESCRIPTIONS.

MESSERS. EDITORS, — The readable paper by Dr. Blodgett, which appeared in the last issue of the JOURNAL, tempts me to call the attention of physicians to a little book to be had of B. Westermann & Co., of whom I bought a copy a year ago (price sixty cents, gold).

Without attempting to review it, I hereby give the title,<sup>1</sup> which shows pretty well what the character of the book is.

The formulæ are written according to the decimal system, which has been recently adopted throughout the German Empire, and they are of great assistance to the prescriber who wishes to write his prescriptions in accordance with this system.

Incidentally, it should be stated that new remedies, as *chloratum hydratum*, *eucalyptus globulus*, etc., are mentioned.

If this little hand-book should be translated, it would seem as if, at the present time, it would have a ready sale. Respectfully, DAVID COGGIN.

SALEM, December 26, 1876.

THE next regular meeting of the Boston Society for Medical Observation will be held on Monday evening next, at eight o'clock, at its rooms No. 36 Temple Place. Dr. Forster will report a case of dysentery.

BOOKS AND PAMPHLETS RECEIVED. — Illustrations of Clinical Surgery, consisting of Plates, Photographs, Wood-Cuts, Diagrams, etc., with Descriptive Letterpress. Fasciculus V. By Jonathan Hutchinson, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1876. (From A. Williams & Co.)

Twenty-First Annual Report of the Trustees of the State Lunatic Hospital at Northampton. October, 1876. Pp. 95. Boston. 1877.

Biennial Report of the Officers of the Vermont Asylum for the Insane for the Two Years ending August 1, 1876.

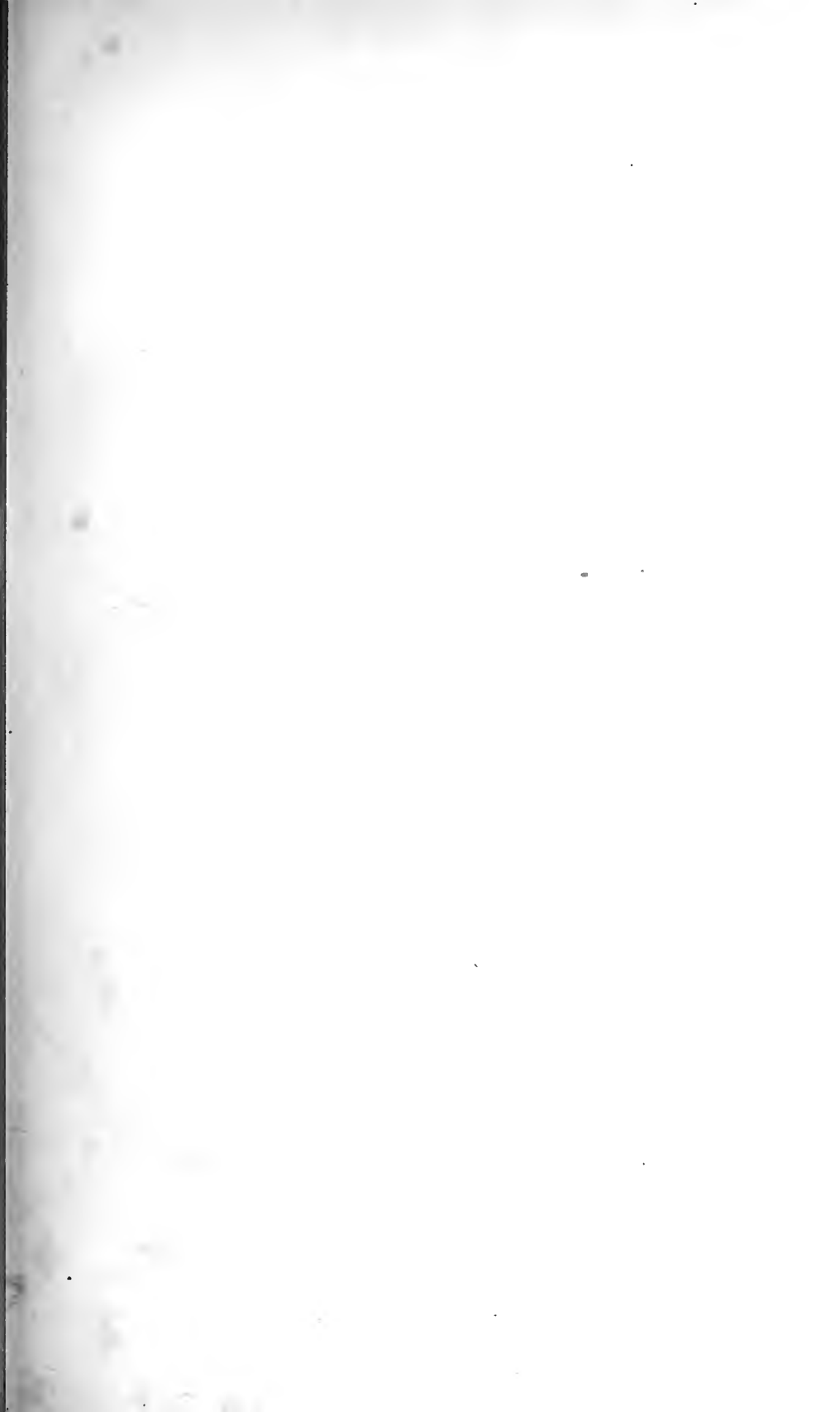
Transactions of the Thirty-First Annual Meeting of the Ohio State Medical Society, held at Put-In-Bay, June, 1876. Cincinnati. 1876. Pp. 221.

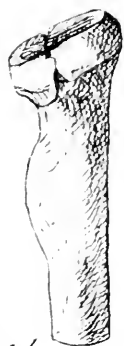
The Urine in Disease. Rules for Analysis, Pathological Conditions and their Significance. By F. M. Blodgett, M. D. Harv. A Chart for Physicians' and Students' Use. Boston: James Campbell.

A Note of Warning. Lessons to be learned from the Cholera Facts of the Past Year and from recent Cholera Literature. By Ely McClellan, M. D., Surgeon United States Army. Louisville, Ky. Pp. 45. 1876.

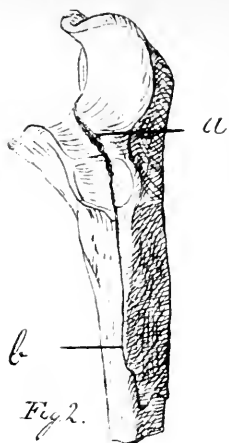
<sup>1</sup> Klinische Pharmacopæe. Die gebräuchlichen Arzneimittel der deutschen Medicin, ihre Wirkung und Anwendung, nebst 400 beliebten Rezeptformeln für innere und äussere Krankheiten. Von Dr. Fred. Wilhelm Müller. Stuttgart. 1875. Pp. 128.







*Fig. 1.*



*Fig. 2.*



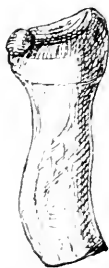
*Fig. 3.*



*Fig. 4.*



*Fig. 6.*



*Fig. 5.*



*Fig. 7.*

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## FRACTURES OF THE HEAD OF THE RADIUS.

BY R. M. HODGES, M. D.

IN October, 1866, I reported the following case to the Boston Society for Medical Improvement.

September 19, 1866, a man, aged thirty-two, fell from a mast-head, injuring himself fatally, and died in my wards at the Massachusetts General Hospital,<sup>1</sup> six hours after the accident. Among his injuries were dislocation and fracture of the elbow, not compound or accompanied by much swelling. He was examined with great care by the visiting surgeons, and the essential features of the fracture were correctly diagnosed, but the post-mortem dissection disclosed a longitudinal fracture, without displacement, through the head of the radius (Figure 1), which was not detected during life. The specimen<sup>2</sup> exhibits a clear and regular split, involving nearly one half the head of the radius, and extending no further than the neck of the bone. It is accompanied by an oblique fracture of the shaft of the ulna, commencing at the depression of the articular surface (Figure 2, *a*), between the coronoid process and the olecranon, extending almost longitudinally three and a quarter inches, and detaching a portion of the shaft with the olecranon. The tip of the external condyle of the humerus is slightly broken.

In the remarks made I said "there were but few instances of longitudinal fracture of the head of the radius recorded in the books," and that in these it was "associated with the rare accident of a fracture of the coronoid process. An inspection of this specimen would show that it might have added another to this list had the fracture of the ulna terminated anteriorly (towards which aspect it inclined and came nearest, Figure 2, *b*), instead of posteriorly."<sup>3</sup>

The cases which I had found were the following : —

That of A. Bérard, who, in 1834, observed the first recorded instance of this fracture, in an individual who committed suicide by throwing himself from a second story window. The elbow presented all the signs of a dislocation backwards. The reduction was accomplished without much difficulty, in spite of the cadaveric rigidity. A little pressure on the arm and fore-arm in opposite directions sufficed to reproduce the displacement, and was at-

<sup>1</sup> Records, cxxvi. 148.

<sup>2</sup> Warren Museum, 1031.

<sup>3</sup> Boston Medical and Surgical Journal, December 6, 1866, page 383.

tended by a slight crepitation. The dissection showed a fracture of the coronoid process, and also another, which, splitting the head of the radius, extended obliquely downwards half an inch upon the anterior face of the bone, severing about one third of its articular surface.<sup>1</sup>

That of Velpeau, occurring in 1840. A man, fifty years old, dislocated his elbow in a violent fall. This was at first taken for a contusion. At the end of six weeks, not recovering the use of his limb, he consulted M. Velpeau, who recognized the dislocation. Ineffectual attempts were made to reduce it. A fatal attack of erysipelas ensuing, an autopsy revealed the fact that the dislocation was accompanied by a fracture of the coronoid process, and by a transverse fracture of the anterior third of the head of the radius.<sup>2</sup>

In Mr. Flower's article on Fractures of the Upper Extremity,<sup>3</sup> the following statement is made: "In the two specimens of fracture of the coronoid process in the museum of St. George's Hospital, the head of the radius was also split longitudinally." These specimens are from "a man killed by a fall from the roof of St. George's Hospital, in whom the coronoid processes were found to be fractured and the two bones of the fore-arm dislocated backwards on both sides. The specimens are now preserved in the museum of the hospital."

Besides these four cases there may be seen in Bryant's Practice of Surgery<sup>4</sup> the drawing of a longitudinal fracture of the head of the radius, also accompanied by one of the coronoid process, from a woman aged seventy, whose arm was amputated for compound fracture of the elbow caused by a fall.

The comparative rarity of this fracture leads me to give, in addition to the single case reported in 1866, and those already instanced, several others which have come under my personal observation.

On the 30th of April, 1868, a man, aged forty, fell forty feet to a brick pavement, sustaining a compound fracture of the elbow-joint, for which I performed excision one hour afterwards, at the Massachusetts General Hospital. During the following night he complained of great distress in the abdomen, gradually sank, and died towards morning. No autopsy was allowed.<sup>5</sup>

The specimen in the Warren Museum<sup>6</sup> shows the head of the radius split into two unequal parts (Figure 3), neither of which is detached, nor does the fracture extend into the shaft of the bone. The olecranon and coronoid processes of the ulna are broken from the shaft by a somewhat comminuted fracture, and the last-named process into two portions longitudinally. The humerus is uninjured.

On the 12th of July, 1866, a man, aged twenty-four, at work in a machine-shop, was thrown against the machinery by the breaking of a tool he was using, fracturing his right elbow and opening the joint. He entered the Massachusetts General Hospital one hour afterwards. The external condyle was broken off, and with it a segment of the head of the radius, equivalent to one third of its surface. I excised the joint, and the patient was discharged, well, September 3d.<sup>7</sup>

<sup>1</sup> *Traité des Fractures et des Luxations.* Par J. F. Malgaigne, tome ii., page 636.

<sup>2</sup> Malgaigne, *loc. cit.*

<sup>3</sup> First edition of Holmes's Surgery, reëdited by Mr. Hulke in the second edition.

<sup>4</sup> American edition, page 854.

<sup>5</sup> Records, cxxxviii. 4.

<sup>6</sup> No. 1026.

<sup>7</sup> Records, cxvii. 146.

The specimen in the Warren Museum<sup>1</sup> exhibits the bones as described. There is no comminution of either of them, the fractures being confined to the head of the radius and the external condyle. The ulna is uninjured.

The thin section (Figure 4) removed by the saw at the time of operation, being hardly more than the articulating surface, is scarcely recognizable as a head of the radius in the fac-simile drawing which is given of the specimen. This, as well as the others of the series, have been carefully made by Dr. H. P. Quincy.

Specimen 1023, Warren Museum, is from the dissecting room, and without history. It was obtained by me in 1856, and exhibits an oblique fracture of the shaft of the radius at the juncture of its middle and upper third, very firmly united. Upon the head of the bone is a small fracture, three eighths of an inch in diameter, clipped, as it were, from the articulating surface (Figure 5). The fragment has a well-defined outline, and is united in place without any signs of new growth of bone around it.

The muscles of the arm were atrophied, and rotation of the fore-arm impaired, but this was due to the fact that the upper fragment of the broken shaft of the radius was twisted upon the lower fragment, the bicipital tuberosity looking outwards instead of inwards.

On the 27th of March, 1874, a man, aged fifty-five, engaged in loading stone, had a heavy mass fall on his right arm, producing a compound, comminuted fracture of the elbow-joint. Admitted to the Massachusetts General Hospital, I performed excision twenty-four hours after the accident, and he was discharged, well, June 18th.<sup>2</sup>

The specimen in the Warren Museum<sup>3</sup> shows the head of the radius divided into three nearly equal portions (Figure 6) by a fracture whose lines radiate from the centre of the articular surface, and which, passing downwards, have split and comminuted the neck and shaft of the bone for an inch and a half in extent. One of the three divisions of the head has been lost. The external condyle of the humerus is broken off. The ulna is uninjured.

On the 2d of September, 1863, a man, aged twenty-one, received a charge of small shot in the left arm. The integuments and muscles near the elbow-joint were torn for a space of six by four inches, and the bones of the elbow broken, although not by the shot, few of these having penetrated deeper than the soft parts. I amputated the arm at the Massachusetts General Hospital, seven hours after the accident, and the patient was discharged October 3d.<sup>4</sup>

The specimen in the Warren Museum<sup>5</sup> shows the head of the radius

<sup>1</sup> No. 1024.

<sup>3</sup> No. 4030.

<sup>5</sup> No. 1017.

<sup>2</sup> Records, clxi. 175.

<sup>4</sup> Records, cvi. 200.

split into three nearly equal segments (Figure 7), one of which is detached and lost. A multiple longitudinal fracture, continuous with the line of one of the divisions of the head, extends downward for an inch on the side of the neck and shaft of the bone. The tip of the external condyle is broken off. The ulna is uninjured.

Some of the above cases are open to the criticism of being mere comminuted fractures. But still it is difficult to believe, when so peculiar a line of separation repeats itself, that it is not in obedience to a law which marks this point as a weak one in the elbow-joint, and predisposed to break under certain directions of applied force. It will be noticed that in two cases, not compound (Velpeau's and that of Figure 1), the fracture was not detected by experienced surgeons. Indeed, it was not discovered before dissection or excision in any of the cases reported except that shown in Figure 4. In four instances it occurred without any accompanying injury of the ulna (Figures 4, 5, 6, and 7), and in eight (Figures 1, 3, and 5, and the cases of Bérard, Velpeau, Holmes (two), and Bryant) without any injury of the humerus, but in no instance without the co-existence of some fracture. Of the cases surviving the general injury of which this fracture was a part, all but two (Velpeau's and that represented in Figure 5) required amputation or excision.

This individual experience (six cases out of eleven reported) leads me to believe that this injury may exist in cases of simple fracture terminating less disastrously, and that from its difficult diagnosis, the non-displacement of the fragments, and the comparative rarity of fatal elbow accidents, it happens more often than has been supposed. Fracture of the coronoid process, asserted to occur, equally with the one under consideration, in connection with backward dislocations of the elbow-joint, is undoubtedly rare. Professor Hamilton states "that there is no evidence that the coronoid process was ever broken by the action of a muscle," and "only one example in which it is probable that a fracture occurred as a consequence of a dislocation of the radius and ulna backwards." I have, however, cited the cases reported by Bérard, Velpeau, and Holmes, in which this fracture existed, and was verified by dissection. It accompanied none of the fractures of the head of the radius which I have myself observed.

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## PHYMOSIS; INCOÖRDINATION OF MOVEMENTS, WITH LOSS OF EQUILIBRATING POWER; CIRCUMCISION; RECOVERY.

BY E. P. HURD, M. D., NEWBURYPORT.

IN the Philadelphia *Medical and Surgical Reporter* for October 14th appeared an article by Dr. Sayre, of New York, on the causal relation

between phymosis and certain paralyses in children. Several illustrative cases were reported, in which recovery from the paralysis followed circumcision. In the *Reporter* for November 11th, 1876, appears a report of a case of my own in which severe nervous irritation, lithuria, etc., was proved due to a similar cause, recovery ensuing after circumcision. In the following case, also in my own practice, the symptoms were those of ataxia and loss of equilibration, muscular spasms and general epileptiform convulsions being also features of the case.

The maintenance of equilibrium as well as muscular coördination "involves the conjoint operation of three separate factors: (1.) A system of efferent nerves. (2.) A coördinating centre. (3.) Efferent tracts in connection with the muscular apparatus concerned in the action. The faculty of coördination is overthrown by lesions of the afferent apparatus alone, or by lesions of the encephalic centre alone, or by lesions of the efferent tracts alone, or by conjoint lesion of all."<sup>1</sup>

That a severe and persistent irritation from any part of the genital apparatus may cause morbid excitation, nutritive disturbances, atrophic degenerations of those spinal centres primarily implicated, a perturbation which eventually becomes widely diffused, rendering considerable portions of the spinal medulla unfit for their proper functions, — that thus an irritating lesion may become an *inhibiting* lesion is quite in accordance with physiological and pathological facts.

*History.* — Was called, November 1, 1876, to see W. B., a bright lad of seven years. The parents are healthy, and of good habits. He had been in poor health for several months, losing strength, appetite, flesh, etc. Had been restless and "nervous." He looked thin and pale, was dull, taking but little notice of anything, and saying but little. *Ataxie locomotrice* is a marked symptom. Could not walk across the room without staggering and pitching headlong. The same want of coördination was manifested when he attempted to feed himself; he made bad work of it, and was soon forced to give it up. It seemed impossible for the will to guide the hand to the mouth. Intellect not disturbed, only the hebetude before mentioned was marked. Responded to questions in monosyllables, and speech was not very distinct. Pupils widely dilated; at times an outward and slightly upward squint of both eyeballs, from paresis;<sup>2</sup> as was supposed, of the third pair of nerves. Marked dullness of hearing. No febrile heat; pulse normal. No pains

<sup>1</sup> Vide page 47 of *Functions of the Brain*, by David Ferrier. New York: G. P. Putnam's Sons. 1876.

<sup>2</sup> The *oculo-papillary* phenomena observed in the case of this patient are common to chronic myelitis, being especially remarked in posterior spinal sclerosis. See Jaccoud, *Pathologie interne*, vol. i. page 363, Paris, 1875. Jaccoud refers this singular behavior of the eye and pupil to irritation of the cilio-spinal centre. "Ces phénomènes oculo-papillaires sont produits par l'excitation directe ou réflexe de cette région de la moelle qui donne naissance aux filets sympathiques du muscle radié de l'iris, et à ceux qui animent le muscle orbitaire inférieur de H. Muller."

complained of. Could not elicit from him whether he experienced any abnormal sensations on attempting to put his feet on the floor, or whether the tactile or muscular sense was perverted. Hyperæsthesia of general surface.

November 2d. Symptoms have remained the same as yesterday. He either lies on the lounge, or sits in his mother's lap. He cannot support himself in a sitting posture. Kicks the legs, tosses the arms, etc., but cannot coördinate his members in any act. Had a restless night, frequently screaming out; repeatedly had partial spasms.

November 6th. W. had a severe fit of epileptiform type last night, and he seems to-day more listless and powerless.

There has been no constipation or difficulty of micturition. The treatment has been thus far the administration of nervous sedatives.

November 7th. Dr. Tilton saw the case in consultation with me. Dr. Tilton held the theory of scrofulous disease of the cerebellum, the precise lesion not determinable. The theory of scrofula was favored by the fact that certain glandular swellings in the neck (submaxillary and thyroid) which the child had once had (following, however, a simple eruptive fever) had disappeared. Dr. Tilton gave an unfavorable prognosis, and regarded all medication as useless.

November 8th. I have been obliged to give my little patient chloral (both the hydrate and the croton chloral) to quiet the excessive nervous irritability manifested during nights, but all has been of little use. He is evidently rapidly failing, gets very little sleep, and his parents are worn out with the care of him. On this occasion I made the following prescription:—

℞ Pulv. opii	.	.	.	.	.	.	.	.	.	.	.	gr. ½.
Camphor												
Ext. hyoseyami	.	.	.	.	.	.	.	.	.	.	.	āā gr. i. M.
Ft. pil. una.												

Give *pro re natâ*. Paint along spine with tincture of iodine.

November 10th. The pill of camphorated hyoseyamus and opium has had a beneficial effect on the patient, who slept a good part of the night. His general condition is not at all improved.

November 13th. My visit was made at nine o'clock P. M. Little W. lay naked in his mother's arms. A glance revealed phymosis. The prepuce was greatly elongated, strangulating the glans, and the urinary *punctum* was minute.

November 15th. Ether was administered, and circumcision was performed in the usual way. An oval portion of mucous membrane was clipped off to correspond with the part removed by the bistoury (the product of the first excision being mostly integument); the prepuce could then be reflected over the glans. Four stitches united the cut edges of the skin and mucous membrane. Carbolyzed dressings were then applied. Dr. J. A. Tilton assisted.



There was considerable œdema the next day, accompanied with pain. November 17th. The swelling and pain continued. The stitches were removed under ether. Several incisions were made into the swollen prepuce to let out blood and serum, and the urine was drawn off by a catheter, none having been voided for twenty-four hours.

November 18th. Swelling and pain diminishing, but considerable sloughing of the tumefied foreskin is going on. The restlessness has abated, and there have been no more spasms.

November 27th. The foreskin has sloughed away up to the corona glandis, and the parts beneath look healthy.

December 7th. The patient has nearly recovered. There has been a rapid gain in the power of coördination. Equilibration is now restored; he walks slowly and feebly, but with perfect steadiness. He can feed and otherwise help himself with his hands. Pupils of eyes are natural, and there is harmony of the ocular muscles. There has been no return of spasms or convulsions, and his sleep is now good. He amuses himself all day long with his playthings, is lively and chatty, and the change in his condition is as gratifying as it is striking.

January 9, 1877. Since the above was written the case has progressed favorably. The lad now plays with his hand-sled out-of-doors, and is able to govern his movements very well. There is at times a little stiffness and awkwardness about his gait, especially perceptible when he attempts to run. He sleeps well; no nervous irritability and no spasms.

*Remarks.*—Cases of paraplegia and ataxia of movement from peripheral irritation are sufficiently common, as is shown by Brown-Séquard in his lectures, by Weir Mitchell in a paper published in the *New York Medical Journal* in 1866, by Jaccoud in a treatise published in 1864,<sup>1</sup> and by others. Vulpian,<sup>2</sup> however, denies that there is any such thing as reflex functional paralysis, but for reasons that to me are not satisfactory.

I think that the case above reported must be considered a case in point, where the ataxia was purely functional, owing to irritation of the glandular branches of the dorsalis penis nerve, the speedy relief following circumcision demonstrating this. Any concomitant spinal lesion, which on Vulpian's theory is to be assumed, must have been trifling.

Had the phymosis not been discovered, it is natural to suppose that general paralysis with dementia would have been the ultimate result.

<sup>1</sup> Les Paraplégies et l'Ataxie du Mouvement. Paris. 1864.

<sup>2</sup> Leçons sur l'Appareil Vaso-Moteur. Leçon Dix-Septième. Paris. 1875.

## RECENT PROGRESS IN PHYSIOLOGY.

BY HENRY P. BOWDITCH, M. D.

## RECENT THEORIES ON THE INNERVATION OF THE HEART.

*Ganglionic Apparatus.* — Rosenthal<sup>1</sup> rejects the commonly received theory that the heart contains both motor and inhibitory ganglia, and recognizes in the frog's heart two groups of ganglion cells having similar functions, namely, "Remak's ganglia" in the venous sinus and "Bidder's ganglia" in the auricular septum and the base of the ventricle. Both these groups have, according to Rosenthal, motor functions, but the former is the proper automatic centre of the heart's movements, while the latter is an accessory centre which is brought into activity only by an increased stimulus, and then causes the heart to perform a greater amount of work, in the same way that the respiratory apparatus works with increased energy in dyspnœa. The various experiments which have been supposed to prove the existence of inhibitory ganglia are interpreted by Rosenthal in accordance with this theory. Thus, a ligature round or a section through the sinus (first experiment of Stannius) stops the action of the heart, not by irritation of an inhibitory organ, as supposed by Heidenhain,<sup>2</sup> but by an interruption of the nervous connection between Remak's ganglia and the muscular substance of the heart. A second ligature or section near the boundary between the auricles and ventricle (second experiment of Stannius) brings the ventricle again into activity, not by removing it from the influence of the irritated inhibitory organ, but by stimulating Bidder's ganglia, which are not ordinarily in an active condition.

An ingenious experiment by Goltz is considered by Rosenthal to lend force to this theory. The experiment consists in placing a ligature tightly around the lower part of the auricles of the frog's heart and removing it again. It is then found that the ventricle no longer pulsates, but that the auricles, continuing their movements, fill the ventricle with blood, dilating it more and more with every pulsation. When the distention becomes excessive, the ventricle makes a single contraction, driving out the blood which has accumulated in it; and the same process is then repeated again and again. The inactivity of the ventricle in this experiment is, according to Rosenthal, due to the destruction by the ligature of its nervous connections with Remak's ganglia, and its occasional contraction is dependent upon an irritation of Bidder's ganglia by the forcible distention of its muscular substance. The stoppage of the ventricular contractions cannot be due to an irritation of an inhibitory organ, because, as Rosenthal points out, it occurs only after the

<sup>1</sup> Bemerkungen über die Thätigkeit der automatischen Nervencentra. Erlangen, 1875.

<sup>2</sup> Studien, i. page 110.

removal of the ligature. As long as the thread remains in place it seems to cause by the irritation of its presence a series of rhythmical contractions of the ventricle, which, however, are not accompanied by any great changes of volume, since no blood can enter or leave that portion of the heart.

An experiment reported by Munk at the meeting of German naturalists at Speyer can also be readily explained in accordance with this theory. Munk found that irritation by gentle pressure on any point of a heart rendered inactive by removal of the venous sinus causes a single contraction. Pressure applied to any part of the auricles causes a contraction of these cavities, followed immediately by a contraction of the ventricle. Pressure on the ventricle causes contractions, first of the ventricle, then of the auricles, and then of the ventricle again. But pressure with the end of a probe exactly on the spot where Bidder's ganglia are situated causes a series of regular contractions which gradually become slower and finally cease. It seems evident, therefore, that Bidder's ganglia are capable of producing a regular series of pulsations, but this occurs only when they are subjected to some abnormal sort of stimulation. Rosenthal does not state how the action of various drugs (for example, atropine, muscarine, nicotine, etc.) upon the heart is to be explained in accordance with this theory, and, as the peculiar effects of these substances have furnished the strongest reasons for assuming the existence of inhibitory ganglia in the heart, a theory which dispenses with this assumption can scarcely, in the absence of any such explanation, be regarded as well established.

*Motor Ganglia in Apex.* — From the fact that the lower portion of the ventricle of the frog's heart remains inactive when separated from the rest of the organ, it has been almost universally believed that no automatic motor ganglia exist in this part of the heart. It was shown, however, in some experiments made by the reporter<sup>1</sup> in 1870, that the apex of the heart may under the influence of certain drugs execute independently a series of movements more or less rhythmical in their nature. The subject was further investigated by Merunowicz,<sup>2</sup> who found that the apex of the heart (that is, the lower half or two thirds of the ventricle), when separated from the rest of the organ and kept supplied with a mixture of defibrinated rabbit-blood and 0.6 per cent. solution of common salt, continues to contract with a regular rhythm for a very long time. The reason why these pulsations have not been noticed by other observers seems to be that considerable time, from ten minutes to an hour, usually elapses after the commencement of the experiment before the pulsations begin. This observation led the writer to the conclusion that "automatic organs producing the heart-beat are contained in the apex of the heart as well as in the auricles, and in the adjacent portion of the ventricle."

<sup>1</sup> Ludwig's Arbeiten, vi. 139.

<sup>2</sup> Ludwig's Arbeiten, x. 132.

Bernstein<sup>1</sup> has, however, recently given strong reasons for rejecting this theory. He finds that if the ventricle is compressed transversely in the middle with a pair of narrow-bladed forceps, the part beyond the line of compression remains absolutely inactive, though it contracts on stimulation. The rest of the heart continuing its normal movements keeps up the circulation through the body and through the inactive portion of the ventricle. The nutrition of this part of the heart must therefore be well maintained. Yet even after the lapse of one or two days it shows no sign of spontaneous activity. Bernstein concludes, therefore, that "under normal physiological conditions no automatic stimulation occurs in the ventricle of the frog's heart." The contractions observed by Merunowicz are regarded by Bernstein as due to an irritation of the substance of the heart by the defibrinated rabbit-blood, and are analogous to the rhythmical movements produced in the ventricle by the passage of a constant electrical current as observed by Eckhard<sup>2</sup> in 1835. If rhythmical movements can thus be produced in a muscular organ commonly regarded as destitute of nerve centres, it seems to show that the cardiac movements may be explained without the assumption of a complicated mechanism of motor and inhibitory ganglia.

In this connection it is interesting to notice the conclusions reached by Foster and Dew-Smith<sup>3</sup> as the result of their experiments on the heart of mollusks. In these animals the heart seems to be absolutely destitute of nerve tissue, yet the excised organ will continue to pulsate for a great length of time, and the application of a weak constant electrical current will inhibit the movements. The same observers<sup>4</sup> found that a weak constant current applied to the lower part of the frog's ventricle, *in situ*, often causes a cessation of all movement during its continuance, while a stronger current produces rhythmical contractions the rate of which increases with the strength of the current. From these and other experiments the authors conclude that the rhythmical pulsations of the heart are *protoplasmic* in their character and depend entirely upon the muscular tissue for their performance, while the nerve plexus has only a regulating or coördinating function which enables the various parts of the heart to work together harmoniously.

*Cardiac Branches of the Vagus.*—The theory so long maintained by Schiff, that the inhibition of the heart's action by the vagus nerve depends upon the rapid exhaustion of motor or accelerator fibres, has been abandoned by him<sup>5</sup> in consequence of the observation that irritation of the vagus in a cat poisoned by atropia often causes a decided

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, 1876, page 385.

<sup>2</sup> Beiträge zur Anatomie und Physiologie, i. 147.

Pflüger's Archiv, v. 191, and Proceedings of the Royal Society, No. 160, 1875.

Journal of Anatomy and Physiology, x., part 4, and London Medical Record, iv. 44

<sup>5</sup> Moleschott's Untersuchungen, xi. 188.

and prolonged acceleration of the heart-beats quite inconsistent with the "exhaustion theory." Similar observations had been made by Schmiedeberg<sup>1</sup> on the frog. Schiff therefore admits the existence of cardiac inhibitory fibres in the vagus, but regards them as less irritable than their antagonists, for he still maintains that a feeble irritation of the vagus always produces acceleration of the heart-beats. The observations of Boehm,<sup>2</sup> that in a certain stage of curare poisoning irritation of the vagus accelerates instead of retarding the heart-beats, can also be explained on the supposition that the vagus contains cardiac nerve fibres of two sorts, namely, inhibitory fibres which can be paralyzed by curare, and accelerating fibres which cannot be so affected.

Foster<sup>3</sup> observed similar phenomena in frogs poisoned by antiar, but gives various reasons for rejecting the assumption that there are accelerating fibres in the vagus nerve. Regarding antiar as essentially a muscular poison, he is inclined to explain the phenomena in question by changes produced in the muscular substance.

The rise of blood tension which is commonly noticed after an irritation of the vagus has been studied by Rossbach and Quellhorst,<sup>4</sup> and found to depend not upon a reaction after the previous inhibition of the heart-beats, but upon the irritation of vaso-motor fibres of the abdominal viscera. This is shown by the fact that if the cardiac inhibitory fibres are poisoned with atropine, irritation of the vagus still causes rise of blood tension; and that if the vagus is divided where it lies on the œsophagus below the heart, irritation of the cervical portion of the nerve inhibits the heart's action, but after the irritation the blood tension does not rise above the normal level.

*Accelerator Nerves of the Heart.*—These nerve fibres, of which the course in the dog from the cervical cord through the ganglion stellatum and cardiac plexus was very accurately described by Schmiedeberg,<sup>5</sup> have been studied and figured in the cat with equal minuteness by Boehm.<sup>6</sup> This observer found that the acceleration produced by irritation of these fibres amounted usually to twenty or thirty per cent., and was seldom less than ten or more than forty per cent., the heart-beats becoming weaker at the same time that they became more rapid. The effect of irritation of these nerves is apparent only after a latent period of five or ten seconds, and is persistent for a long time after the irritation has ceased. Prolonged irritation does not readily produce exhaustion. The relation of these nerves to the vagus has been carefully studied by Baxt,<sup>7</sup> who finds that the two sorts of nerve fibres are not

<sup>1</sup> Ludwig's Arbeiten, v. 41.

<sup>2</sup> Archiv für experimentelle Pathologie und Pharmakologie, iv. 351.

<sup>3</sup> Journal of Anatomy and Physiology, x. 586.

<sup>4</sup> Pflüger's Archiv, x. 439, und Würzburger phys.-med. Verhandlungen, ix. 13.

<sup>5</sup> Ludwig's Arbeiten, vi. 34.

<sup>6</sup> Archiv für experimentelle Pathologie, iv. 255.

<sup>7</sup> Ludwig's Arbeiten, x. 179.

to be regarded, strictly speaking, as antagonistic to each other, for the effect of irritation of the vagus cannot be prevented by a simultaneous irritation of the accelerating nerves. Moreover, a very brief irritation of the accelerating nerves will produce upon the movements of the heart a very prolonged effect, which an irritation of the vagus can interrupt only during the actual continuance of the stimulation.

(*To be concluded.*)

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

NOVEMBER 25, 1876. Fifty-nine members were present. DR. WILLIAMS, the president, in the chair.

*Intussusception; Sloughing; Discharge of Intestine.*—DR. GERRY, at the request of members of the society, reported a case of intussusception in which the invaginated portion of intestine, seventeen inches in length, was discharged from the anus. A detailed account of the case appeared in the report of the proceedings of the Norfolk District Medical Society in the JOURNAL of December 28, 1876.

DR. JACKSON said that so far as he was aware this was the first case of the kind that had occurred in this vicinity, though many cases of discharge of a portion of the intestine had been collected. Dr. Thompson, of Glasgow, was authority for the statement that, however rare sloughing of the intestine might be, when it did occur recovery was the rule. In this case there was no question that it was part of the small intestine which had come away; valvulae conniventes, which were observed, would indicate that it was probably the upper part of the ileum, or perhaps a portion of the jejunum. Dr. Jackson had always found that intussusception originated at the ileo-cæcal valve, with one exception, in which it occurred in the rectum.

Dr. Jackson mentioned a case of typhoid fever occurring in the practice of Dr. Jacob Bigelow which was marked by acute cerebral symptoms. At the autopsy nothing unusual was found in the brain, but there was intussusception through the ileo-cæcal valve. With regard to the suggestion that the intussusception might be upward instead of downward, Dr. Jackson had never seen such a case. He considered opening the abdominal cavity for intussusception, with a view to withdrawing the invaginated intestine, a foolhardy procedure, since it would usually tear before it could be withdrawn even in comparatively recent cases. In a case operated upon by Dr. John C. Warren it was found that nothing could be done except to sew up again. In internal strangulation, however, with no chance for sloughing, opening the abdomen might sometimes be entirely justifiable, as the band was often quite loose and might be easily severed. With regard to the diagnosis of intussusception in distinction from internal strangulation, the invaginated portion is generally within the large intestine, and is accompanied by tenesmus, with straining away

of mucus and blood from the congestion of the outer coat of the invaginated portion. These symptoms were wanting in Dr. Gerry's case, as the trouble was in the small intestine.

DR. WEBBER said, with regard to the copious vomiting, that cutting off the nervous supply was found by Bernard's experiments to promote the exudation of fluid into the intestines. Sloughing or injury of the nerves which supplied the diseased part of the intestine might have the same effect.

DR. BOWDITCH thought that in cases of obstruction from any cause, heroic treatment by purgatives, enemata, etc., was unadvisable, and that palliative measures were more desirable. In this case purgative treatment might possibly have been of advantage, but in his opinion the patient did well in spite of the treatment, not owing to it.

DR. JACKSON said that the late Dr. James Jackson used to urge strongly in these cases an abstinence from the use of cathartics in any form. In typhlo-enteritis, also, in which there are so often the symptoms of obstruction, though none exists, Dr. Jackson thought the use of cathartics reprehensible.

DR. BOWDITCH mentioned a case of serious obstruction which occurred some time ago at the Boston City Hospital, the patient having had no operation for a week before entrance. Opium was administered; no food was given by the stomach and very little drink, but after the use of nutrient enemata for a fortnight the patient got well.

DR. WEEKS reported a case of obstruction occurring in a boy. There was a tumor in the neighborhood of the ileo-cæcal valve, with vomiting and pain. No cathartic was given. The treatment was palliative, by opiates, enemata, etc. Inflation was tried, but the patient died in five days. In another case, in which there was invagination in the lower part of the bowels, the patient with the use of opium recovered.

DR. ABBOT thought that cathartics could only do harm in intussusception, and that they must increase the trouble. He regarded their use as being usually due to obscurity of diagnosis.

With reference to the criticisms on the treatment, DR. GERRY said that in this case the early symptoms did not indicate intussusception, and cathartics were given for obstruction which was apparently removed, as discharges from the bowels occurred. He had mentioned the use of blue pill and black draught as measures adopted in the early days of the disease, when the diagnosis was not clear.

DR. BOWDITCH and DR. ABBOT agreed in thinking that the usual desire on the part of patients for purgative medicines in cases of colic and constipation, and the yielding of members of the profession in this matter, were to be condemned.

DR. JACKSON had been much struck by the absence of general peritonitis in cases of intussusception and internal strangulation, except in two or three cases in which there was perforation.

In answer to a question by Dr. Jackson, DR. GERRY said that his patient had been comfortable about two months, with occasional attacks of pain and vomiting.

*Food per Anum.* — DR. E. CHENERY read a paper on the administration of food per anum, and drew the following conclusions: (1.) Food administered per anum is absorbed by the rectum, not by the colon. (2.) Such amounts only as the rectum can retain, from four to eight ounces every few hours, are useful. (3.) We cannot look for any digestion in the rectum, therefore only such articles as can be easily absorbed are desirable, fresh milk, beef tea, eggs, and other albuminoid substances treated previously with pepsine. Oils pass readily into the lymphatics with the addition of a small amount of alkali.

Dr. Chenery mentioned the case of a patient who had been nourished several weeks by injections consisting of a teaspoonful of Liebig's extract and milk.

*Uterine Polypus.* — DR. J. HOMANS showed a fibrous polypus of the uterus which he had removed by the *écraseur*. There had been considerable flowing for several months. The tumor was the size of a small pear and was attached to the inner os. There was no hæmorrhage at the time of the operation or since.

*Stone in the Bladder of an Infant; Lithotomy; Recovery.* — DR. E. H. BRADFORD showed a calculus which he had removed by lithotomy from the bladder of a child one year and ten months old. The patient was brought to the Carney Hospital, suffering from frequent and painful micturition. There was no blood and but little pus in the urine. He had had these symptoms for at least a year, according to the statement of the mother. The operation was the ordinary one of lateral lithotomy. The patient made a perfect recovery. The stone measured two by two and three fourths inches, and weighed 61.5 grains. The age of the child was the only thing unusual in the case. Mr. Teevan reported in 1875 (*Medical Times and Gazette*) a successful case of lithotomy in a child one year and eight months old, and it is said to have been performed on still younger patients.

*Tuberculosis of the Genito-Urinary Organs and Caries of the Vertebrae.* — DR. FITZ showed the specimens, which came from a patient of Dr. A. H. Johnson, of Salem, who had been kind enough to forward his notes of the case. The patient, thirty years of age, had had two children, the youngest born eight years ago, and two miscarriages since that time, at three and six months respectively. She had never felt well since the last one, and formerly suffered from painful menstruation. About five years ago she complained of severe pain in the back between the shoulders, which abated after some weeks and did not annoy her much till about two years ago, when she was suddenly seized with severe pain in the same region while running a sewing-machine. The pain was so bad that she was obliged to give up work, and could eat no supper. From this time on till her death her back gave rise to more or less trouble, at times aching severely. For the past twenty-one months she had not menstruated, and had been troubled with incontinence of urine during nearly the whole of this period. She had a cough during the past winter, from which she apparently recovered after some three months.

She kept about her household duties till five months ago, but was easily fatigued. Last July she was treated by a physician for "dysentery," from which she was not relieved till a month later.



Dr. Johnson first saw her about six weeks previous to her death, when there was a marked cachectic appearance. An outward spinal curvature in the dorsal region was very prominent, though there was but little pain in the back. Incontinence of urine was the most marked symptom, though diarrhœa was also annoying. Examination of the urine showed the presence of a small amount of pus and albumen; during the first week of attendance the pulse was 100 and weak; the bowels were loose and the appetite capricious. A gradual improvement then took place. During the early part of the last three weeks of her life the temperature became elevated and chills occurred. There was then a temporary change for the better followed by loss of appetite and increasing prostration.

*Autopsy.*—The autopsy showed that the spinal curvature was due to almost complete caries of the tenth dorsal vertebra, with cheesy degeneration of the inflammatory products and sclerosis of the adjoining parts of the bodies of the vertebrae immediately above and below. Tubercles were not found in the vicinity, nor was there any change in the membranes of the cord nor evidence of its compression. There were numerous fibrous tubercles of the lungs, and tubercular ulcers of the intestine. The mucous membrane of the bladder was ulcerated and studded with tubercles. The kidneys were sacculated, the walls of the pelvis and calices showing extensive cheesy tubercles. The mucous membrane of the uterine cavity was replaced by a coherent cheesy layer towards the muscular coat, containing numerous tubercles, and the uterine cavity was filled with dry cheesy masses, but was not dilated. These alterations ceased with considerable abruptness at the internal os. The os externum was eroded, the ulcerated surface showing an occasional gray tubercle. Both Fallopian tubes were also tuberculous, and the canals contained considerable cheesy material.

*Pigmented Choroidal Sarcoma.*—DR. B. JOY JEFFRIES showed a specimen of intra and extra ocular pigmented sarcoma from a patient of Dr. F. P. Sprague. A man aged fifty-four, American, presented himself at the Eye Infirmary with the right eye enlarged, protruding, and much congested. The movements were impeded, and the patient complained of attacks of acute pain. Below and outside were bluish spots resembling choroidal staphylomata. Tension of globe not much increased. Cornea clear and anterior chamber normal. Iris discolored, lens opaque, white, and shrunken. Six years ago first noticed his vision failing and bright spots before the eye. In two years vision had gone, then pain for the first time. The pain would come and go, attacking him suddenly, and was so severe twice as to produce vomiting, and confine the patient to the house for several days. The eyeball was red and inflamed at each attack and protruded more afterwards. Enucleation showed a large tumor attached to the middle and posterior part of the globe surrounding the optic nerve. The hæmorrhage was considerable. The orbit seemed quite cleared of the growth after operation. On hardening the tumor in Müller's fluid Dr. Jeffries found a pigmented choroidal sarcoma filling half of the vitreous space. It had passed through the sclerotic in the middle of the globe and grown backwards, around the optic nerve sheath, to the size of a small English walnut. On section through the tumor and nerve, it was found not to

have invaded the latter through the sheath, but the intra-ocular portion which extended over the nerve had followed up into it. The microscopical character of the tumor was that of sarcoma, the pigment varying in amount in different portions, very similar to the cases given in Knapp's book on intra-ocular growths. As to the prognosis, Dr. Jeffries said he should have regarded it as most grave, were it not that in a nearly similar case of his own the patient had reported himself some three years after with no sign of return of the disease, and was well enough to think of removing to California to labor.

*Enucleation of the Eyeball after Injury.* — Dr. Jeffries also exhibited an eyeball he had removed, of which the anterior half of the vitreous was filled with pus, and in this a piece of metal was found, a line and a half in length. The patient, a robust groom twenty years of age, was standing by a forge and felt his eye struck by a piece from the hammer. This was at four p. m. The next morning, at ten a. m., Dr. Jeffries found a wound of the cornea of the right eye a line and a half long, up and out; cornea hazy, iris muddy, pupil fixed, and pus to the height of two lines in the bottom of the anterior chamber. Globe inflamed and eye painful. Just under the corneal wound was either the foreign body or a hole in the iris. The cornea and aqueous humor were too dull to test this by the ophthalmoscope; therefore to relieve pain, at least by reducing tension, and to attempt to remove the foreign body should there prove to be one, a lance knife was passed into the anterior chamber just outside of the wound, and an effort was made with forceps to grasp any foreign body in the iris. None was removed, and an iridectomy was made. The pus flowed off freely. The patient had not agreed to enucleation or it would have been done then. He was comfortable the next day, but there was pus all around the other edge of the anterior chamber and very threatening signs of panophthalmitis. He then consented to have the globe removed, and on section the piece of iron was found as above-mentioned. Dr. Jeffries had never seen such rapid pus-formation from so slight an injury, and thought the case interesting from a medico-legal point of view.

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### TRACHEOTOMY.<sup>1</sup>

THE compact little work which deals with this operation contains an amount of interesting and valuable information which one would hardly expect to find in so short a treatise. The book is evidently intended by the author as a guide to practitioners. It opens with a brief description of the anatomy of the trachea; then follows a description of the instruments and apparatus connected with the operation given in minute detail. The various forms of tubes are illustrated freely. Among these we notice a right-angled tube which may be lengthened or shortened at pleasure by means of a screw, according to the depth at which the trachea lies. This was invented, the author tells us, by Mr. Durham, of Guy's Hospital, and has his highest approval. It is evidently

<sup>1</sup> *On Tracheotomy, especially in Relation to Diseases of the Larynx and Trachea.* By W. PUGIS THORNTON, London. Philadelphia: Lindsay and Blakiston. 1876.

used quite extensively by our English colleagues. Dr. Fuller's bivalve speculum, although extremely convenient for introduction into the trachea, is considered dangerous, the sharp edges of the outer canula having caused several cases of fatal hæmorrhage after the operation. Trendelenburgh's canula, which is used when tracheotomy is performed preparatory to operations about the mouth and jaws, to prevent the flow of blood into the trachea, is approved. We fail to see the advantage of a complicated apparatus like this over the simple canula combined with plugging of the pharynx by a sponge. We may mention here a description of Dr. B. Richardson's bellows for artificial respiration, consisting of two rubber tubes and bulbs so arranged as to inject and suck out air from the lungs through the canula by a simple movement of the hands.

The description of the operation is exceedingly clear, and the advice given here and throughout the book is sensible and to the point.

The book is adorned with three photographs of specimens which illustrate fairly the points intended to be shown.

The various diseases for which tracheotomy is required receive their proper share of space. We would call the attention of our younger readers to the following statement under the heading, Croup and Diphtheria. "There are no cases which more fully reward the practitioner than those belonging to this class, when tracheotomy seems inevitable, and yet when, by unremitting attention and watching, the operation may be avoided. In these diseases tracheotomy is far less satisfactory than in any other morbid condition in which this operation is admissible, except perhaps when it is performed for scalds of the larynx, and therefore if there should be any chance of recovery without resorting to this measure, the chance should be given." Dr. Thornton mentions four cases in which the operation has been performed successfully for these diseases, under one year of age. Three are reported by English surgeons.

We notice that the author, in speaking of cystic goitre, remarks that the plan introduced by Mackenzie of converting the tumor into a chronic abscess by one or two injections of a solution of iron (3ij ad 3i) is so infallibly successful that it ought invariably to prevent the necessity of performing tracheotomy. We are not inclined to think that surgeons generally would indorse this opinion.

We think this a useful book, and one which will repay careful reading.

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### SANSON'S PHYSICAL DIAGNOSIS OF DISEASES OF THE HEART.<sup>1</sup>

THE author has given us in this little book an excellent compend of the results of physical exploration of the heart, excepting those derived from the sphygmograph, which, he says in the preface, it seems better in the present state of our knowledge to study apart from the ordinary means of physical diagnosis. Although intended as a *résumé* of well-established facts, it is not wanting in evidence of independent observation and thought. Dr. Sanson

<sup>1</sup> *Lectures on the Physical Diagnosis of Diseases of the Heart.* By ARTHUR ERNEST SANSON, M. D. London: J. & A. Churchill. 1876. 12mo, pp. 115.

recognizes the value of the binaural stethoscope for examination of the heart, but thinks that sound heard through it may be rendered too intense, so that if two sounds occur near together, one may be drowned. Therefore he uses both forms of stethoscope, that is, the single and double, successively.

Sansom considers pulsation of the retinal vessels to be an objective sign of great value in case of aortic regurgitation. He says that he has examined a large number of cases in which an aortic diastolic murmur existed, and has very rarely failed to find such visible pulsation, which is more common in the veins, but exists in both arteries and veins in many cases.

In regard to the much discussed transitory systolic murmurs over the body of the heart, or at the apex, the author says (1) that one may have a systolic murmur over the right ventricle from a weakness in the walls; (2) in case of chorea there is always organic lesion of a valve which may be temporary; (3) the systolic murmur in certain acute febrile affections is of musculo-hæmic pathogeny, that is, due to tremulous contraction of the enfeebled heart-muscle or impoverished blood. He accepts M. Hayem's proof of myocarditis in such cases, but does not agree with Hayem that regurgitation is produced thereby. The use of the word intermediate for mediate (auscultation) is novel, but reasonable. The embossed outline figure of the chest on the cover may be useful to those who have no better way of obtaining a "chest-chart."

The only criticism which we feel ourselves called upon to make is upon the print of the book, which is altogether too fine for a text-book.

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## SCARLET FEVER.

THE order of the Boston Board of Health, which appears in the present number of the JOURNAL, is a step in the right direction. Every physician must hereafter report to the Board of Health cases of scarlet fever which he may be called upon to attend, and every householder must also give a similar notice of the appearance of scarlet fever within his family. An additional order of the board prohibits any child from any family in which scarlet fever may appear from attending school until four weeks have elapsed since the beginning of the last case of such sickness.

This action of the board is merely applying to scarlet fever the same requirements which heretofore have been held to apply only to small-pox. We cannot doubt but that the medical profession will do all that may lie in its power to aid the health authorities in reducing, if possible, the annual death-rate of this disease. The wisdom of enforcing the law in cases of small-pox is universally admitted, and we can but think that most happy results would follow the adoption of a similar method of treating a disease which annually carries off in this city a far greater number of victims than small-pox. During the years 1874, 1875, and 1876 there were 1282 deaths from scarlet fever, while only six deaths were reported from small-pox. During the years between 1867 and 1876 there were 3232 deaths from scarlet fever, and 1264 deaths from small-pox. Of this latter number, 1026 occurred during the so-called epidemic of 1872-73. Leaving, therefore, that number out of the question, we

have 238 deaths from small-pox to offset 3232 deaths from scarlet fever. When it is remembered that out of 148,829 deaths collected by Murchison, 142,337 were of children under fifteen years of age, it will be readily seen that the predisposition to scarlet fever rapidly lessens with the increasing years of childhood, and that, therefore, if childhood can be protected from the attacks of this disease, adult life is comparatively secure, a fact which does not hold good with small-pox. Any precautions, therefore, which shall lessen the danger of an individual falling a victim to scarlet fever in his youth is of far greater value than similar precautions taken as regards small-pox.

It is well known that scarlet fever is, like small-pox, a contagious disease, and that it has never occurred spontaneously in isolated islands, except where it has been introduced from without. A careful examination of the history of the disease, recently written by Professor Thomas, of Leipsic, shows that its spread from Europe to other countries has been due to commerce. It was unknown in Iceland until 1827, in Australia until 1849. It first appeared in North America in 1735, and no case is reported in South America until as late as 1829. If, as seems probable, its spread is due solely to contagion, direct or indirect, it is conceivable that the adoption of measures similar to those resorted to during epidemics of small-pox would result in putting an end to a disease so fatal in its character. At present, however, it would be impracticable to attempt to isolate in hospitals patients suffering from scarlet fever as is done with cases of small-pox. It is possible, however, to prevent the disease from being spread wider and wider in the community through the agency of schools.

In this connection we may allude to the fact that the Board of Health of Brookline voted, January 3d, to advise the school committee that no child resident in any house in which there has recently been a case of diphtheria, scarlet fever, or small-pox should be allowed to attend school without first bringing a certificate from the attending physician that all danger of communicating the disease had passed, such certificate to be indorsed by the physician of the Board of Health. The school board at once (January 7th) adopted the suggestion.

The temporary inconvenience which such enforced absences from schools will occasion should have but little weight when compared with the results to other children, who may thus be protected from a disease oftentimes so fatal or so productive of a serious and lasting impairment of the general health.

The Boston Board of Health have been for some time considering the advisability of issuing the orders which they last week adopted, and the wisdom of their action will beyond question meet the approval of the community as well as of the members of the medical profession.

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#### ASYLUM REPORTS.

THE report of the Northampton Lunatic Hospital discusses at much length several topics of interest to physicians and the public generally. It is impossible to condense it to advantage, and to miss Dr. Earle's peculiar style of putting things would be a loss to the reader. Any one, therefore, interested

in the fallacies of hospital statistics, especially in reference to the percentage of recoveries, should obtain this report. The great comparative cost of the Danvers hospital is also severely criticised.

The biennial report of the Vermont Asylum at Brattleboro' contains many suggestions by Dr. Draper, concerning the nature of insanity, which do not call for comment. We may, perhaps, except his opinion that the families of the insane have a right to be protected from their depressing and contagious influence. The morbid mental atmosphere which surrounds many insane persons is not a favorable one in which to bring up children already predisposed to mental disorder. The member of such a family on whom the care of the patient devolves is in especial danger, and should not be subjected to such risk simply because the patient is harmless in the physical sense. Such a law as has recently been proposed in Vermont, that none but dangerous lunatics be sent to a hospital, would not only cut off a large part of the insane from all efficient curative measures, but would tend directly to produce insanity in the families of those already insane.

The Vermont Asylum has recently been subjected to the inspection and criticisms of a commissioner. This asylum is an incorporated institution, which boards the insane poor of the State, cities, and towns at a fixed rate. The commissioner condemned this system, and advised the building of a hospital by the State. We have on hand a review of the report of the commissioner by the officers of the asylum, and also a joint report of the committee of the general assembly of Vermont appointed to examine the matter. The committee indorse the management of the asylum and report adversely to the proposed state hospital.

### MEDICAL NOTES.

— Dr. Meynert, the well-known professor of mental diseases in Vienna, had the misfortune to make a misstep on the stairs of his house a short time since and receive a fall by which he suffered a fracture of both bones of the leg near the ankle.

— For palpitation of the heart which does not depend on an organic disease of the organ or of the central nervous system, Mardier recommends a novel treatment, which consists in causing the patient to bend forwards with his arms hanging down so as to make the blood flow into the upper part of the body. If in addition the patient be advised to hold his breath for a few seconds, while in this position, the effect is said to be produced even quicker.

— In pernicious anæmia, when iron given internally can no longer be absorbed, Huguenin (*Gazette des Hôpitaux*, August 26, 1876) makes use of the subcutaneous method of its administration. The formula for the injection of iron is as follows:—

℞ Ferri pyrophosph.,	
Ammon. sulph. . . . .	55.00 = 3 $\frac{1}{4}$ .
Aque destillat. . . . .	50.00 = 3 $\frac{1}{2}$ . M.

So that a subcutaneous syringe holds three centigrammes of iron, or half a grain. Soon after the injection, redness of the skin, œdema, and often even

heart symptoms are seen, but all these phenomena soon pass away, and the general condition is improved.

— We take the following changes of university professorships from the *Wiener medizinische Presse* of November 12, 1876. Dr. Ponfick, former assistant of Virchow and recently professor of pathological anatomy in the University of Rostock, has accepted a call to the University of Göttingen. The extraordinary professor, Dr. Albert Thierfelder, in Leipsic, will fill Ponfick's place at Rostock. On the 1st of November Dr. Schiefferdecker, former assistant in the University of Strassburg, formally entered on his duties as *privat docent* for anatomy in the University of Rostock. From an earlier number of the same journal we learn that Dr. Karl Senhofer, extraordinary professor of medical chemistry in the University of Innsbruck, has been chosen regular professor of general and pharmaceutical chemistry in the University of Vienna. At Heidelberg, extraordinary professor Dr. Hermann Lossen is intrusted with the direction of the clinic of the recently deceased surgeon, Simon.

— We make the following quotation from the *New York Medical Record*, adding that the subject is one to which we made some allusion in an editorial article in the number for January 4th. We fear the reform needed will hardly be accomplished by so mild a method as is hinted at by our Kentucky contemporary. "The *Louisville Medical News* says: 'Evidences of new medical journals for 1877 are rife. It will soon be in order for the *Boston Medical Journal* and the *New York Medical Record* to read the riot act.'

"As far as we are concerned, we give the editor of the *News* due credit for his foresight, for the following was in type when we read the above: —

"Several new medical journals are announced for the coming year. The reasons given are, "in consequence of a want long felt by the profession," etc. The shoe is so apt to be on the other foot, that at the end of a year or two the wants of the journal are much in excess of those of the profession. The latter may be considered, for the sake of the argument, an unappreciative set in any event, but that is no reason why we should not hope for the best."

— In the Section für Anatomie und Physiologie of the *Versammlung deutscher Naturforscher und Aerzte* in Hamburg, 1876, Professor Quincke spoke of the diuretic action of waters containing carbonic acid. Experiments with water containing carbonic acid and that free from it, carried on in healthy or nearly healthy individuals, showed that the secretion of urine in the next three hours after drinking the carbonated water was richer (seven to twenty-one per cent. of the entire amount). The probable cause of the great diuresis was an accelerated resorption brought about by the carbonic acid. Other series of experiments in which the individuals took no drink on waking up in the morning showed that the urine secreted in the morning hours was clearer and of lighter specific gravity than the night-urine which was passed on getting up. Also the average amount secreted in an hour was usually greater in the morning hours than in the night. These facts show that during sleep the secretion of urine is relatively small, and that after waking it is increased.

In the Section für innere Medicin, Professor Quincke reported two cases of pernicious anæmia which he cured by transfusion. Human blood was used, and a partial destruction of red blood corpuscles followed, which showed itself in transient hæmoglobulinuria.

— Meding, in the *Archiv der Heilkunde*, speaks of a case of parametritis puerperalis which ran a rapid and favorable course under the use of salicylic acid internally. He tested the milk of the patient and the urine and feces of the child who nursed, but could find no traces of the drug in either.

— Professor Leyden commenced his new labors as clinical teacher in the Charité at Berlin, in place of Traube, on the 30th of October last. In his opening address he eulogized his teacher, Traube, and thoroughly explained the method he intended to pursue in his clinical instruction.

— At a meeting held October 11, 1876, of the Berliner medicinische Gesellschaft, Dr. E. Wiss spoke in almost unbounded praise of balsam of tolu as an application to wounds of all kinds. When the balsam was put upon wounds it produced an immediate sensation of burning, which, however, very soon ceased, as did all pain, even in most severe wounds. Fresh wounds under this treatment showed no inflammation, and in those already inflamed it soon ceased. No suppuration took place, and where it was already present it soon disappeared. No wound treated by him by this method took on a septic character, even under the most unfavorable local and climacteric surroundings. In all cases, even in lacerated wounds, there was union by first intention, a thing which had not been his experience in any other method of treatment. Two cases were detailed. He considers that the balsam hinders suppuration, and after his surgical experience he made use of it in two cases of old women with profuse catarrh of the lungs. The drug was given in an emulsion with yolk of egg ( $4.0 : 120.0 = 64.8\text{m}$  to  $4\frac{3}{4}$ ; one teaspoonful every two hours), and one case was well in eleven days, while the other recovered in three weeks. In these cases "all other medicines had failed."

— We have lately received Dr. Billings's second report on the construction and organization of the Johns Hopkins Hospital, with fourteen plates showing the plans of the architect, Mr. Niernsee, and embodying the merits of the various plans which had already been suggested. The original volume published by the trustees, which has received such general commendation, is a sufficient guaranty that any combination of the best ideas in it must contain nearly all that is known at the present time to make a hospital all that it should be. The system of ventilation by flues leading from the different wards to one vast chimney appears to be most in favor, but not decided upon; and it has apparently been selected without consideration of the fact that the efficiency of these flues diminishes very rapidly in proportion as they extend to a distance from the central ventilating-shaft. The house of Mr. Winans, which is taken as a model, or a school-room, may be easily and thoroughly ventilated in this way; but it is a very different matter when one deals with a dozen wards full of sick people. One of the greatest advantages of the block plan is the facility offered for *simplicity* in all matters pertaining to hospital hygiene.

— The University of Griefswald, Prussia, has in this winter semester two hundred and twenty-two matriculated medical students. The University of Erlangen, Bavaria, has one hundred and ten matriculated medical students, of whom forty-four are from other states than Bavaria.

In the University of Zürich, Switzerland, are twenty-six female students, twenty-three of whom are registered in the medical, and three in the philosoph-



ical faculty. Of these twenty-six, Russia sends nine, America six, Germany, Bohemia, Servia, and Switzerland two each, Hungary, England, and Holland one each. It is a well-known fact that Russian ladies in large numbers were refused admission to their own universities, and petitioned the senate of the Zürich University for admittance. The pressure was so strong that their petition was complied with, though at the cost of strong opposition on the part of the senate of the university. A few years ago, when over one hundred Russian ladies were at Zürich, of whom the majority were medical students, the czar issued an ukase, forbidding them this privilege, and ostracizing those who did not return to Russia within a limited time. This is the sole cause of the decadence in the number of female students in Zürich.

— Professor Valentin, of Bonn, celebrated his fortieth anniversary as professor of physiology in that university early in November. His medical colleagues presented him with a bronze statue of himself, and he was made doctor of philosophy *honoris causâ* by that faculty. Valentin was formerly a student of Purkinje, of Breslau, and is perhaps best known to the medical reading public as the one who first described ganglion cells and flimmer cells (*flimmerzellen*.)

— A case of intussusception with sphacelation and subsequent recovery is reported in the *British Medical Journal*, by E. A. Fox, F. R. C. P. The patient, a boy aged four and one half years, on the 18th of July complained of pain in the bowels and had persistent vomiting. He continued to suffer till July 23d, when the vomiting began to diminish, the tympanites lessened, and flatus passed per anum. The next day there was a small, loose evacuation without blood, and on the 25th he had four copious pale evacuations; with the last there was a lump of fleshy-looking substance, which upon examination proved to be a foot of the large bowel turned inside out, with the vermiform appendix, which also was turned inside out, attached. On slitting open the ascending colon it was found to contain nine inches of small intestine, showing that the intussusception began at the ileo-cæcal valve. The whole of the separated bowel was quite black and gangrenous. The patient gradually improved, and on September 30th he was quite recovered and strong. During the course of the disease there was absence of inflammatory symptoms except pain. The separation did not take place until the tenth day, and the expulsion not until the twelfth. The sphacelated bowel measured twenty-one inches in length.

— Intussusception of the rectum in pregnancy is a malady to which Dr. B. E. Hadra calls attention in *The Richmond and Louisville Medical Journal* of December, 1876. He thinks it merits a greater share of attention than most of our text-books give to it. The long-standing obstipations so common in pregnancy, as well as the direct pressure exerted by the gravid womb upon the rectum in the direction of the sacrum, tend to produce the trouble. Two illustrative cases are given. Their symptoms were, stools very frequent, small, slimy and more or less mixed with blood, and uncontrolled by internal medication, tenesmus, absence of fever, etc. Examination by the rectum easily revealed the intussuscepted fold. The treatment consists in copious injections of cold water made with considerable force. These unfold the invagination, and produce natural dejections.

## MASSACHUSETTS GENERAL HOSPITAL.

## SURGICAL CASES OF DR. WARREN.

[REPORTED BY C. W. COOPER.]

*Irreducible Hernia.* — One year ago the patient, a fireman, noticed a small, hard swelling in the right inguinal region. He could assign no reason for its appearance. For eight months there was little or no change, and the tumor caused no inconvenience. Then the mass began to descend, and after a hard day's work would pass quite down into the scrotum, returning to its former position during the night. At the time of his admission there was a swelling in the right inguinal region, extending as far as the upper part of the scrotum, and feeling like a large finger under the skin. Taxis was employed without success; the patient was then ordered to bed, and absolute rest in the horizontal position enjoined. After eight days of rest the hernia was found to have entirely disappeared, spontaneous reduction having taken place. The patient, provided with a truss, was allowed to walk about, and after being kept under observation for a few days was discharged, well. The rapid and favorable effect of the horizontal posture upon an otherwise irreducible hernia was noticeable in this case.

*Stricture of the Urethra.* — CASE I. S. W. entered the hospital July 28th with a gonorrhœal stricture of twenty years' standing. After many trials on different days, a capillary bougie was introduced into the bladder. Two days after his admission, the patient being etherized, a guide was passed with some difficulty into the bladder, and the stricture divulsed, Voillemier's divulsor being used for the operation, after which an English No. 12 catheter was fastened in. There was some pain that night, relieved by a suppository of one quarter of a grain of morphia. The patient was quite comfortable, making no complaint of pain during the remainder of the treatment, which was as follows: the catheter was removed on the fifth day, and a metallic sound, English No. 12, was passed daily for a week; the sound was passed every other day for the succeeding week. The patient was then taught to pass the instrument himself, and instructed to perform the operation once a week for a time, and to gradually lengthen the intervals. This case was complicated by an attack of gonorrhœal rheumatism, through which complication he has been kept under observation for several months, and as far as the stricture is concerned he has no trouble whatever, and experiences no difficulty in keeping up the after-treatment.

CASE II. G. G., an alcoholic subject, entered the hospital September 12th. The patient contracted gonorrhœa several months ago, and never submitted to treatment for that disease. Has had some difficulty of late in passing water, the stream being small and forked in character. Twenty-four hours before entrance complete retention came on. He was at once etherized, and a stricture was found to exist in the membranous portion of the urethra, which scarcely admitted the passage of the smallest bougie. The stricture was divulsed by the same operation as above, and a catheter was fastened in.

During the afternoon and evening severe pain in the penis was complained

of, and the patient twice unfastened and removed the catheter, but was prevailed upon to have it replaced. After a good night's rest, superinduced by morphia, he felt quite comfortable, and made no farther complaint or objection to treatment. The catheter was removed on the fourth day, and the sound put in requisition as above. In eleven days he was discharged, with instructions to pass a No. 12 sound at intervals.

CASE III. J. R. entered the hospital September 28th. Has had trouble in passing water for two years; the stream has been small and forked in character. For the last two weeks he has suffered from incontinence. On examination a stricture was discovered, through which a No. 6 French bougie passed without much difficulty.

In this case a trial was made of the treatment by gradual dilatation as follows: the largest bougie that the stricture would receive easily was left in for an hour. During the afternoon there was marked constitutional disturbance, a chill followed by febrile symptoms of some severity. On the next day the same instrument was left in for the same length of time. This was followed in a few hours by more severe symptoms than those of the day before, well-marked urethral fever being the result. Four days were allowed him to recover from the effects of this treatment. At the end of that time the operation of divulsing was performed, and was followed by no bad symptoms. The catheter was removed on the third day, and in twelve days he was discharged, being able to pass an English No. 12 sound himself.

CASE IV. J. A. entered October 5th. Has had difficulty in micturition for four or five years, attacks of retention occurring every six months. In relieving retention it has been necessary to use a small instrument. On examination a No. 4 French bougie passed through the stricture. On the second day the operation of divulsion was performed. No trouble followed; the patient bore the catheter easily for three days, and in twelve days was discharged, well. Two weeks later he reported in good condition, having had no trouble in passing an English No. 12 steel sound, as instructed.

CASE V. J. E. entered October 20th. Has been troubled with stricture, following gonorrhœa, for two years, with the usual symptoms of occasional retention and a small stream of urine. As a No. 8 French bougie could be passed without difficulty, the method of gradual dilatation was tried. A bougie was left in the stricture for half an hour. The patient soon after had a chill, followed by febrile symptoms. On the next day the bougie was again passed and allowed to remain for a time. For the next twenty-four hours he suffered severely from urethral fever. Three days of rest were allowed, and the stricture was then divulsed as in the former cases. There was no chill that evening, and no trouble while the catheter was left in the bladder or during the after-treatment. In thirteen days he was discharged, with instructions to use a sound, English No. 12.

CASE VI. W. H. entered the hospital last January with a urinary fistula opening near the middle of the perinæum. After six weeks of treatment he was discharged, the fistula having healed. He reëntered June 20th because it had again opened, and urine passed almost entirely through the perinæum. A stricture, admitting the passage of a capillary bougie, was found at the seat of

the urethral opening of the fistula. By Voillemier's divulsor the stricture was ruptured, under ether, as in the above cases, and a No. 12 English catheter tied in. Ten days after, the fistula was laid open by an incision and the wound packed with lint. In this case a catheter was kept in the bladder for six weeks, the instrument being removed and a fresh one inserted every five days.

At the end of that time, as no urine had come from the perineal opening for a week, the catheter was withdrawn, and an English No. 12 steel sound passed daily. In a short time the wound had entirely healed, and the patient had learned to pass the sound himself. He was discharged, with instructions to pass a steel sound occasionally.

The slight constitutional disturbance caused by the operation of divulsion, together with the general absence of pain and discomfort following it, was a marked feature of this collection of cases. The case of rheumatism occurred in a patient with broken-down health and a stricture which had been impassable for an instrument for some time before entrance. In many of the cases the condition of the patients at the time of entrance was far from what would be considered favorable for this operation. Slight febrile disturbance was usually noticed the day following the operation; from that time a rapid convalescence took place unmarked by unfavorable symptoms or discomfort.

*Fracture of the Femur; Delayed Union.* — The fracture was caused by a fall upon the pavement; its situation at about the middle of the bone. The case had been treated for nineteen weeks outside the hospital, the man being kept in bed, with apparatus applied to keep the fragments in position. An examination at the time of his entrance showed that ossific union had not taken place, there being free mobility at the point of fracture. He was etherized the next day, and the ends of the bone well rubbed together by Dr. Gay. The limb was then fixed in an immovable position by the application of a long Desault's splint. The leg was left undisturbed in this apparatus for two months, and blisters were applied at intervals over the seat of fracture. At the end of that time, though a considerable amount of callus had been thrown out, union was by no means firm. Three weeks later the fragments were quite firmly united, though there was still some mobility of the parts.

The patient had now become somewhat reduced by his long confinement to bed, and as the limb seemed strong enough the apparatus was removed, and a dextrine bandage applied, extending from the umbilicus to a point a few inches below the knee, with a light splint on the outside of the thigh to give additional support. He was allowed to walk about the ward with crutches, and after being kept under observation for ten days was sent home.

Seven weeks after his discharge he reported with the bandage in good condition, his general appearance much improved. The bandage was removed entire by sawing through longitudinally in the median line, and pulling it off like an unlaced boot.

Ossific union was found to be nearly perfect, but as there might still be some danger in abandoning all support, the bandage was sprung again into place and secured with straps, instructions being given that it should be worn two or three weeks longer.

## CORONERS IN PHILADELPHIA.

MESSRS. EDITORS.—The accompanying account of my experience in Philadelphia with one of its coroners and his satellites was published in the *Boston Herald* of December 28th; but by abridgment of my paper some important facts were omitted, which\* perhaps can be made to contribute towards the overthrow of a system which gives such authoritative power to unprincipled men.

The first act of the coroner's representative when he reached the hotel was to invite all present to take a drink with him; and the first place I visited by the undertaker's direction in search of the coroner was a bar-room, where the proprietor informed me that the coroner "had just left," but was soon expected back.

Not a witness, so far as I could learn, was summoned from the hotel; certainly none was present at the inquest but Dr. Munn, who went in accordance with my request, and was asked no question about the case.

Respectfully,

HENRY J. BARNES, M. D.

21 BEACON STREET.

"A gentleman in this city, a relative of Dr. Abel Ball, whose sudden death in Philadelphia last November will be remembered, is the authority for the statements given below, showing how the business pertaining to the coroner's office was performed.

"On his arrival in Philadelphia in response to a summons, the gentleman found that an intoxicated man claiming to represent the city coroner had demanded the body, to which the hotel proprietor and a physician objected. The former said that Dr. Ball was his friend, and had died in his house, without a suspicion of other than a natural cause, to which a respectable physician who was in attendance would certify, and that an inquest was unnecessary; furthermore, he expected a relative that day to take charge of the body. It was finally given up to the undertaker, who accompanied this man, with the understanding that he was to keep it until some one arrived authorized to take charge of it, and the promise of the "coroner" that no autopsy or inquest should be made. Contrary to this promise, the body had been removed to the Morgue, an autopsy made, an inquest begun; and the coroner's undertaker, on being visited by the relative with a request to be given the body, at once replied that it could not be done that day. He gave as a reason that they (the coroner and himself) were democrats and the Board of Health republicans, who were not in pleasant relations with them. Finally, the undertaker agreed to do what he could, and representing that a box would be needed in which to put the body he offered to sell one to the gentleman, and taking him to his warerooms did sell him a pine box.

"Afterwards they sought and found the coroner, who said, 'Nothing can be done to-day, as the doctor who made the autopsy has not rendered his report, and an inquest, begun Saturday, has adjourned until Monday.' The gentleman then asked him why these proceedings had been instituted; and he replied that 'in case the deceased had a life insurance, friends could obtain the policy.' Members of the family of the deceased were shocked, on seeing

the body, at the deformity about the head, due to a heedless adjustment of the calvaria, the part removed to make an examination of the brain, which was entirely unequalled for, in view of the "heart disease" being known, and except for the additional fee which is allowed for head examinations would never have been made."

The following is an extract from a statement of Dr. John Munn of New York: "Then the case of Dr. Abel Ball was called, and up rose the august doctor, book and post-mortem case in hand, who declared that no signs of violence were discovered. He found the heart fatty and softened and a certain amount of fluid on the brain, and that 'the man undoubtedly died of heart disease.' Whereupon the coroner cried out, 'What is your verdict, gentlemen?' Immediately from the two jurors who had been paying attention came the response, 'heart disease.' Nearly two minutes were consumed in this case."

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JANUARY 6, 1877.

	Estimated Population, July 1, 1876.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,061,244	500	24.49	27.46
Philadelphia	825,594	267	16.82	22.24
Brooklyn	506,233	218	22.39	24.92
Chicago	420,000	156	19.31	20.41
Boston	352,758	120	17.69	23.39
Providence	101,500	36	18.44	18.34
Worcester	51,087	25	25.45	22.00
Lowell	51,639	20	20.14	22.21
Cambridge	49,670	13	13.61	20.54
Fall River	50,372	9	9.29	22.04
Lawrence	36,240	19	27.26	23.32
Lynn	33,548	16	24.80	21.37
Springfield	32,000	1	1.62	19.69
Salem	26,344	14	27.41	23.57

Normal Death-Rate, 17 per 1000.

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THE METRIC SYSTEM.

MESSRS. EDITORS, — The very practical suggestion of Mr. Doliber in the last JOURNAL, and conversations with physicians relative to the article on the Metrical System, etc., in the JOURNAL of December 21st, lead me to think it may be wiser to retain the abbreviations *gram*, and *c. c.* in prescribing, thus avoiding any possible misunderstanding in dispensing the medicines; and were the article not yet published I would expunge the third formula and the sentence below it commencing "The druggist is expected," etc.

Very respectfully, ALBERT N. BLODGETT.

BOSTON, January 11, 1877.

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on Diseases of the Skin By Louis A. Duhring, M. D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania. Philadelphia: J. B. Lippincott & Co. 1877. (For sale by A. Williams & Co.)

The Popular Health Almanac for 1877. New York: E. Steiger.

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## SUDDEN DEATH FROM EMBOLISM.<sup>1</sup>

BY R. H. FITZ, M. D.

DURING the past two years I have had the opportunity of observing the anatomical results of immediately fatal embolism in several instances, and under such circumstances as seem to make it desirable to call renewed attention to this cause of death, already so well recognized.

The histories of these cases show that a marked feature is the sudden and unexpected nature of the attack, whether taking place during the progress of disease or in persons apparently in good health. Combined with this is the evident impossibility of furnishing any effectual relief from the distressing symptoms, except by the administration of anæsthetics, which in most cases represent merely a change in the agent eventually employed, as the evidence of carbonic-acid poisoning very rapidly becomes manifest.

That the employment of such agents may be recommended it is desirable that a relatively correct diagnosis should be made, and although there are no symptoms pointing absolutely to embolism, there are certain suggestive ones. The comparative rarity of the occurrence in the experience of any one physician is practically likely to cause considerable doubt when the occasion finally arises, and a consideration of these symptoms becomes, therefore, all the more important.

To the kindness of the several gentlemen in whose practice the following cases occurred I am indebted for the clinical histories which give to this paper its chief value.

CASE I. The first case was under the charge of Dr. J. T. G. Nichols, of Cambridge, who reports as follows:—

“A lady, thirty-three years of age, of unusual strength and endurance, had always been well with the exception of having suffered from an attack of Panama fever twelve years ago, and from an acute laryngitis eight years previous to her last illness. She had been troubled of late by bleeding piles, which had annoyed her from time to time for several years. A mild attack of typhoid fever began October 5, 1874, though she did not take to her bed till eleven days later, when I was first sent for. She had a slight cough, which became more severe three days

<sup>1</sup> Read before the Boston Society for Medical Observation, December 18, 1876.

after my attendance began. It was paroxysmal in character, and she described her sensation as though the windpipe were constricted and she must die unless speedily relieved. During these paroxysms her face grew red, and there was severe headache. She became quite nervous in consequence. There was no alteration of the voice, nor was there any expectoration or dyspnœa. Opiates were given, and the cough disappeared on the 20th of October. During this interval there was a slight irregularity of the heart's action, of which the patient was conscious, and she could not lie easily upon the left side. Physical examination of the heart and lungs, made daily, revealed nothing abnormal. When the cough and irregular action of the heart disappeared, a sense of weakness and sinking was complained of, but there was no change in color, pulse, or temperature corresponding with this sensation, which was relieved by the moderate administration of stimulants. Five days after the first paroxysm of coughing there was a return of this symptom in a less severe form, and it was again relieved within twenty-four hours by opium. Two days later she was seen in the morning, in good spirits, and expressed her confidence as to a speedy recovery. Her pulse was 90, and the temperature 100°. She was breathing naturally, and there was nothing in her appearance to give rise to any fear of impending danger. At noon she sat up in bed to take medicine; fifteen minutes later, while being read to by her sister, she made some remark in a natural tone of voice, and immediately began to struggle. The blood rushed to her face, and the respiration became difficult. She referred her suffering to the chest and to the right iliac region. Profuse sweating came on, the skin rapidly became livid and cold, and in less than an hour she died. Just before her death she was seen by Dr. Morrill Wyman; there was then no pulse to be felt, the respiration was very imperfect, and death took place during a slight convulsion."

The autopsy was made twenty-four hours later. The right side of the heart was distended with fluid blood. A dark-red, firm, elastic thrombus was found in the main pulmonary artery, extending nearly to the valves. It was doubled upon itself, the opposed surfaces being moderately agglutinated, and formed a mass nearly as large round as the thumb. The angle thus formed pointed towards the heart, and this portion of the thrombus presented a conical shape. It extended into the main pulmonary arteries of both lungs as far as the tertiary divisions. The oldest portion was in one of the tertiary divisions of the right pulmonary artery, the age being indicated by a firmer adherence to the wall, a softer consistence, and a reddish-gray color. There was no evidence of local disease of the pulmonary artery, and the surrounding tissue was not essentially altered.

The lower lobes of both lungs were extensively injected, and the right upper lobe was œdematous. There was no hæmorrhagic infarction.



The kidneys and liver were injected; the cystic duct was obstructed by a gall-stone, and there was cystic dropsy of the gall-bladder in consequence. The spleen was acutely enlarged, and Peyer's patches, near the ileo-cæcal valve, were moderately swollen, opaque, œdematous, and of a bluish slate color. There were three small typhoidal ulcers in the cæcum in the process of healing. A source for the embolism of the pulmonary artery was not ascertained, circumstances preventing a prolonged search.

The cause of death in this case seems to have been a primary embolism of a small branch of the pulmonary artery, and its extension towards the heart by secondary coagulation, until it actually protruded into the main pulmonary artery. The protruded part was then bent backwards, doubled upon itself, and was continued into the pulmonary artery of the other lung. It has long been evident that in typhoid fever there are certain predisposing elements to thrombus-formation. The enfeebled action of the heart, the confinement in bed, and the muscular rest act as favoring causes in producing the marantic thrombus, usually in the veins of the extremities or in the vesical plexus. The existence of hæmorrhoids naturally calls attention to the latter region as affording an additional factor in the production of thrombi, but none were found in these veins.

As the febrile attack was a mild one, during the first eleven days not necessitating confinement in bed, there seemed to be nothing in the general condition of the patient to call attention to the possible presence of a thrombus. In the light of the result, however, there are certain symptoms which seem of considerable importance, and Dr. Nichols has called very direct attention to them. These are the paroxysmal cough, the sensation of constriction and feeling of anxiety, without alteration of voice or dyspnœa, associated with temporary irregular action of the heart. Some days after the disappearance of this attack another similar one, though less severe, occurred, which was more speedily relieved. The absence of physical signs in the chest, and of special symptoms calling attention to the larynx, is of importance in withdrawing attention from the hypostatic pneumonia and laryngeal ulcerations which form so frequent a complication of typhoid fever.

The anatomical evidence of an antecedent embolus was quite sufficient, and if these paroxysmal attacks can be regarded as resulting from the transfer of emboli, it becomes evident that an original autochthonal thrombus must have been formed before the close of the second week of the fever, at a time when the patient had been in bed but three days.

CASE II. The following case was reported by Dr. E. Chenery at a meeting of the Suffolk District Medical Society.<sup>1</sup>

<sup>1</sup> Vide JOURNAL, 1876, xciv. 396.

A lady, fifty-two years of age, was first seen by Dr. Chenery on August 26, 1875. She was in robust health till a short time before, when she had occasional attacks of diarrhœa. She had become weak and anæmic, complained of pain in the back and pelvis, and was constipated, though troubled with frequent mucous discharges from the rectum. During the following month she became steadily worse. On September 27th she was suddenly seized with dyspnœa, and became cold and clammy; the pulse was rapid and weak. In the course of two hours she rallied, but soon relapsed and died.

The autopsy showed that the immediate cause of death was a thrombus of the primary pulmonary artery extending into the secondary divisions; the thrombus was firm, gray, and laminated. Its source was not discovered. There was also cancer of the right ovary, filling the pelvis.

This patient, though previously robust, had become rapidly cachectic, apparently in consequence of the progressive cancerous affection and the frequent intestinal discharges. There seem to have been no symptoms from which an existing thrombus could be suspected, and no evidence of embolism preceding the fatal attack.

CASE III. Dr. R. L. Hodgdon, of Arlington, presented to the Obstetrical Society of Boston the account of the following case, which occurred in his practice.<sup>1</sup>

The patient, twenty-five years of age, had already borne one child. The labor was a tedious one, and it was necessary to apply forceps. Before and after this event her health had been good. At her second confinement, January 22, 1875, a healthy female child was delivered by turning, there being but little loss of blood. During the subsequent twenty-four hours the after-pains were severe. A few hours after delivery she had a chill and pain in the left iliac region. Pain and tenderness in this region, accompanied by general febrile excitement, persisted for several days, when the symptoms subsided, and an apparently favorable convalescence followed. There was no œdema of the legs observed, nor was there any cough. On the twenty-fourth day after delivery the patient went to the bed from her chair, remarking, "I never felt better in my life." She lay down, and at once began to breathe with great difficulty. Dr. Hodgdon saw her ten minutes later; she was tossing about on the bed, suffering intensely, and complaining of pain in the epigastric region. The face was livid, the tongue blue, and the respiration labored, 80 per minute. The pulse was rapid, small, and thread-like, and but one sound of the heart was heard. The chest was resonant, and air could be heard entering it. Her condition remained the same during the following ten or fifteen minutes, when death took place.

The body was well nourished, but the organs were generally anæmic.

<sup>1</sup> Vide JOURNAL, 1875, xciii. 73.

A soft, reddish-gray thrombus, of the size of the forefinger, extended from the right iliac vein into the inferior vena cava for two inches. Thrombi were also found in the right ovarian vein and in the vesical plexus. The uterus was in a state of normal retrogression. The tricuspid orifice contained a club-shaped embolus one and a half inches in length, the larger end being the size of the tip of the forefinger. Both primary pulmonary arteries were plugged with emboli; also their branches which passed to the upper lobes of both lungs. These lobes were œdematous, while the lower ones were injected.

Although in this case there was clinical evidence of a pathological process in the pelvis, yet there were no special symptoms to call attention to its exact nature, nor was any evidence found after death to explain such symptoms. Certainly, during the last two weeks of the patient's life the case differed in no respect from perfectly normal cases of convalescence after labor. Whatever may have been the cause of these symptoms, a thrombosis could least be suspected, though it may have been a result. From the well-known fact that extensive thrombosis may take place without symptoms, and from the absence of the most common and prominent symptom of puerperal thrombosis, milk-leg, there seems to have been but little to suggest even the idea of embolism.

CASE IV. A man fifty years of age entered the Massachusetts General Hospital January 5, 1876, to be treated by Dr. Cabot for an ulcer of the leg. Many years previous he had been injured by a boat-hook, but the wound had never healed; at one time it even extended from just below the knee to the ankle, though at the time of his entrance it was about the breadth of two fingers only. For the two weeks preceding his admission he had been annoyed by considerable dyspnœa and by a slight cough, though there had been but little expectoration. He had also complained for some time of a fluttering sensation in the region of the heart. He was very weak; the face was pale and the lips blue, and he had an attack of faintness while being carried to the ward. The pulse was fair, though rather quick; the heart's action tumultuous, and the impulse felt over an abnormally large area, but no souffle could be detected. Examination of the lungs disclosed nothing but a few moist râles at the base. The urine had a specific gravity of 1013, and contained one half per cent. of albumen. Granular and hyaline casts, blood, pus, and oxalate of lime crystals were seen with the microscope.

At the morning visit, two days after his admission, he said he was feeling better, but about 4.30 P. M. he suddenly became oppressed in breathing, with paroxysms of unconsciousness; the face became livid, the pulse failed rapidly, and in about a quarter of an hour he died suddenly in one of the attacks of unconsciousness.

At the autopsy, seventeen hours after death, the left foot was found to be œdematous. The brain was examined, but nothing abnormal was found beyond an increased density of the posterior lobes. In each pleural cavity was about a pint of clear yellow fluid, and there were about four ounces in the pericardium. The heart was considerably enlarged from dilatation and hypertrophy. The aortic orifice permitted slight regurgitation, the valves being thickened and slightly retracted. The mitral orifice was enlarged, and the line of apposition of the valves was slightly roughened. The cavities of the heart contained post-mortem clots, and the right side was dilated, the left contracted.

The right and left pulmonary arteries were filled completely with firm red thrombi extending into the tertiary branches. On the left side they were moderately adherent to the walls, while on the right they were connected with an adherent, partially decolorized, and somewhat softened embolus. At the periphery of the right upper lobe were two wedge-shaped nodules of infarction of a reddish-gray color, about an inch and a half broad at the base.

Six ounces of fluid were found in the abdominal cavity. Both liver and kidneys presented the appearances of chronic passive congestion, nutmeg atrophy in the former, cyanotic induration in the latter; degenerative changes had also taken place in the renal epithelium.

The left femoral vein contained a recent thrombus extending from below the middle of the thigh into the iliac vein. From Poupart's ligament downwards it almost completely filled the vein, while above this point it represented a continued partial thrombus.

The various conditions favoring the production of a marantic thrombus were present here to a marked degree, as well as a local predisposing cause for the origin of the thrombus. The dyspnœa and cough which existed previous to the patient's entrance into the hospital are of but little value in relation to embolism, on account of the evident disturbance to the pulmonary circulation from the chronic valvular disease of the heart.

Although the attack of faintness may have been connected with the transfer of an embolus, it is evident anatomically that several transfers had taken place, from the nodules of infarction in one lung and the adherent embolus in the other.

However numerous may have been the emboli which preceded the fatal attack, a distinct interval of several days existed between the occurrence of any symptoms pointing to serious disturbance of the circulation and those immediately preceding death.

CASE V. On or about the 1st of May, 1876, I received from Dr. I. G. Porter, of New London, Ct., the thoracic organs of a patient who had died suddenly. From the published account of the case<sup>1</sup> it

<sup>1</sup> American Journal of the Medical Sciences, 1876, cxliv. page 436.

appears that the patient, sixty-one years of age, was of robust and plethoric appearance, and of extremely active habits. His pulse was always small and weak. For two weeks previous to his death he complained of unusual weakness, and had a slight bronchial cough. He was able to attend to his business, however, and drove out the day before his death, managing the horses himself. After a restless night he arose, took a bath as usual, and went to the observatory at the top of the house as was his custom. "But he returned almost immediately, became faint and breathless, and barely reached the lower floor, when he almost fell into the arms of his family. I reached him very soon (at 7.45 A. M.), and found him cold and in profuse perspiration; countenance pale and ghastly; pulse rapid, irregular, and scarcely perceptible. He was very restless, though without true pain, and complained earnestly of being faint and of having no breath, although at the time filling his lungs completely at every inspiration. The difficulty was not increased by the horizontal position, and yet he preferred to sit up, supported by friends. Stimulants conferred momentary relief, and sinapisms and external warmth were freely used, but in about half an hour his head fell on his breast, and he was gone, remaining conscious to the last."

The organs arrived in a fresh condition; the heart had been opened, but had contained fluid blood, according to the accompanying letter. There was moderate dilatation with hypertrophy due to chronic changes at the aortic orifice, also thickening and contraction of the valves, which produced insufficiency. One of the aortic valves was almost wholly obliterated. The heart was not in a state of fatty degeneration.

In one of the secondary branches of the pulmonary artery of the left lung, an adherent and slightly decolorized thrombus was found, which had probably been in position several days. A more recent but still ante-mortem coagulation extended from this towards the main pulmonary artery of both lungs, and was continued into the right pulmonary artery, filling its primary branches. An arborescent thrombus was thus formed, with its ends rounded and pointed and passing from an inch to an inch and a half into the primary branches. Beyond its ends in the lung the blood was still fluid. No source of embolism was found in the heart.

In the report of the case referred to, Dr. Porter states that "some eighteen months previous to his death the patient made an overland journey to California, and, as he thought, through long and persistent confinement in the cars, his left leg and foot became very painful and swollen; so much so that for some time after his arrival he was disabled for business, and was under the care of a surgeon, and by him kept very quiet in a horizontal position. The pain left him after a while, but the limb remained swollen quite to the time of his death,

though it did not particularly incommode him in walking." About a fortnight before the patient's death he strained violently at the health-lift, after which he complained of feeling ill. Dr. Porter suggested that at this time, through powerful muscular action, a fragment may have been detached from a possible thrombus then existing.

CASE VI. A man fifty-five years of age, of marked cachectic appearance, entered the Massachusetts General Hospital to be treated by Dr. J. C. Warren for caries of the wrist, of two years' standing. During this period he had been unable to work on account of the local trouble. When he arrived at the hospital the wrist was much swollen, and a mild attack of erysipelas came on, which had almost subsided at the time of the fatal attack. Early in the morning of October 3, 1876, eight days after his entrance, a patient in an adjoining bed called the nurse's attention to him on account of apparent difficulty in breathing and the expression of his face. He had become unconscious almost instantly. Fifteen minutes later he was pulseless and breathless. There was no lividity, nor had any spasm or convulsion taken place. He had been in bed during his stay in the hospital, and the night before had expressed himself as feeling very much better than when he entered.

At the autopsy, made thirty-two hours after death, the heart was found distended and contained mainly fluid blood. A thrombus nearly two inches in length and as large round as the little finger extended from the right ventricle into the pulmonary artery. It was dark red and moderately firm, evidently having formed some hours before death. Several thrombi which had apparently been contained in the small pulmonary vessels were removed from the thorax. The entire lower lobe of the left lung was in a state of atelectasis, of relatively recent origin, and the right lung was œdematous. The kidneys and liver were unusually injected.

A source of embolism was looked for but was not found.

Whether the decided swelling of the wrist, evident at the patient's entrance into the hospital, resulted from a thrombosis or not, was not ascertained. A minute dissection of the veins of the arm was not made, although those were opened which were large enough to contain an embolus of the size mentioned.

A marked peculiarity in the symptoms of this case is furnished by the absence of lividity and spasms. The record of the symptoms immediately preceding death is a very brief one, the negative facts having been obtained several days after the death of the patient. The appearance of the organs suggested that death was the result of suffocation, but the recorded symptoms do not point in the same direction.

Although the element of enfeeblement is common to all of these cases, the degree is so varied that its importance as a general feature becomes comparatively limited. In the puerperal and typhoid cases it

was by no means sufficient to cause any anxiety; both were regarded as convalescing favorably, and the condition of the organs indicated that such was the case. The mere fact that under these circumstances an accident of so grave a character may take place is sufficiently suggestive of a guarded prognosis even when a rapid recovery is anticipated. In Dr. Porter's case the theory of the cause and effect is certainly a very plausible one. Although the patient was far from being looked upon as enfeebled, yet the occurrence of a probable thrombo-phlebitis, in connection with confinement, indicates that a relatively trivial factor was alone required to bring about a diseased condition. After such an attack his health could hardly be regarded as fully up to the average. Of great energy and engaged in active commercial pursuits, his tendency was to add to rather than to withdraw from the routine of his daily life.

The symptoms of cardiac disturbance were insufficient to attract special attention to the heart; nevertheless, some time after his return from California, he made a summer trip to Europe on account of overwork.

In the three other cases the cachectic condition was strikingly apparent, of extremely rapid origin in the cancerous patient, and of more protracted character in the cases of chronic ulcer and caries.

It may be considered that in all the cases, except perhaps in Dr. Porter's, there were no symptoms by which an existing thrombus could be directly diagnosticated. There are certain points, however, in the histories of some of them which seem to be of value in calling attention indirectly to such a condition. These are such as may be attributed to antecedent embolism.

In Dr. Nichols's case embolism of a tertiary branch of the right pulmonary artery, without resulting infarction, had occurred. In Dr. Cabot's case there was an embolism of a tertiary branch of the right pulmonary artery, also without infarction, in addition to the two nodules of hæmorrhagic infarction seated near the periphery of the right upper lobe. In Dr. Porter's case an embolus of a secondary branch of the left pulmonary artery had previously taken place. In three of the cases, therefore, there is anatomical evidence of antecedent embolism, while in the other three cases the only embolism was that immediately proving fatal.

It is to be noticed at the outset that the anatomical results of the embolism in these three cases were not alike. In one case only were nodules of infarction, embolic pneumonia, present, while in the other two cases no such condition was apparent. This discrepancy in the results of pulmonary embolism is one not unfrequently observed, and has recently been made the subject of experimental study by Cohnheim and Litten.<sup>1</sup> According to these observers an abnormal sluggish-

<sup>1</sup> Virchow's Archiv, 1875, lxxv. 99.

ness of the capillary current or an increased resistance to the escape of blood from the pulmonary veins must be present that infarction may occur. The former takes place in connection with multiple embolism of the lungs and from diminished action of the right side of the heart, as in protracted fevers and fatty degeneration. The latter is produced by valvular disease in the left side of the heart. Although the valvular disturbance found in Dr. Cabot's patient was incompetency rather than obstruction, yet the evidences of chronic passive congestion found in the liver and kidneys indicated obstruction to the passage of blood through the lungs, which obstruction had no evident source in these organs.

The question of practical importance is, were there any symptoms in these cases from which embolism could be inferred? Jürgensen<sup>1</sup> states that the obstruction of a small branch of the pulmonary artery usually gives rise to no symptom and that it is undetermined how large an infarction must be to give rise to symptoms. These are an increased frequency of respiration, even actual dyspnœa, little or no fever at the outset, although it may appear later, and a chill which is about as often absent as present. Cough arises, followed sooner or later by bloody expectoration in small quantities, and lasting several days; then there is pain when the infarction is seated at the periphery of the lung. The results of a physical examination of the lungs are dependent upon the size and seat of the embolus. He further adds: "Although it is very easy to describe these signs theoretically, it is very difficult to make them out practically." Gerhardt,<sup>2</sup> in addition, calls attention to sudden fainting attacks when a considerable portion of the pulmonary circulation is obstructed, and further to convulsive or spasmodic movements and disturbed cerebral function, all of which symptoms are attributed to anæmia of the nervous centres.

In neither of these three cases is bloody expectoration recorded, nor is there mention of a chill or of fever to be attributed to embolism. Dyspnœa is prominent though its character is not always fully described.

In two of the cases cough was observed, coming on suddenly in one case, in the other regarded as due to influenza although perhaps of equally sudden origin. In Dr. Cabot's case the sudden fainting attack may have been the symptom of embolism, though the dyspnœa and cough for two weeks previous are more likely to have resulted from the heart disease. In one of the cases a feeling of anxiety, in the other of uneasiness, is described as coming on suddenly. Temporary irregularity of the heart's action is noted in the case where the heart was healthy.

The special feature of importance seems to be the *sudden* occurrence

<sup>1</sup> Ziemssen's *Handbuch*, v. 251.

<sup>2</sup> *Sammlung klinischer Vorträge*, xci. 726.



of symptoms pointing to the lungs and brain. If these are associated with ascertained chronic disease of the heart, or with evidence of an existing thrombus, their value becomes considerable in exciting suspicion. This suspicion receives confirmation and becomes strengthened into probability as the other symptoms previously enumerated make themselves apparent.

The importance of ascertaining the existence of a pulmonary embolism is all the more apparent as the mechanical production of death in these cases is considered. Although in four cases the embolus may be regarded as sufficiently large to produce direct, rapid suffocation, in two cases this result was arrived at indirectly by the growth towards the heart of the thrombus which formed upon the antecedent embolus. The end projecting into the main pulmonary artery was bent backwards and forced into the unobstructed artery. Even in one of the four cases this combination of continued thrombosis, by cutting off the blood supply to one lung, was of great importance in necessitating sudden death when the pulmonary artery of the other lung received its obstructing embolus. A new element of danger thus becomes associated with the continued thrombus, that of giving rise to immediate and fatal obstruction without detachment, as well as through embolism.

The symptoms of the immediately fatal attack may be grouped together as follows: sudden extreme dyspnœa with open tubes, cough and thoracic pain, lividity or pallor, rapidly failing pulse, cold sweats, intense anxiety, and attacks of fainting or unconsciousness with or without spasms.

These symptoms may be referred to the lungs, heart, and nervous system, and are evidently due to the instantaneous elimination of more or less of the pulmonary circulation. The immediate effect of this is twofold, an accumulation of blood in the right side of the heart and nervous system in general, and a diminution of blood in the left side of the heart and arterial system, from the cutting off of the supply through the lungs. This arterial blood is not only diminished in quantity but in quality also, being poor in oxygen and containing more carbonic acid owing to the obstruction in the pulmonary vessels; and for the same cause the venous blood throughout the body contains an excess of carbonic acid. These changes in the composition of the blood are spoken of as suffocation, and it is of this condition that the patients so earnestly complain. Despite the respiratory efforts the blood becomes insufficiently aerated, and the fainting and spasms result from the causes producing the dyspnœa. The heart's action becomes enfeebled and irregular from dilatation of the right side and from diminished and insufficient blood supply to its walls, as well as from eventual paralysis of the pneumogastric nerves, and death is thus likely to result from asphyxia.

It is to be observed that in two of the cases death occurred with great rapidity, in fifteen minutes even. In one the pulmonary valves were apparently prevented from closing, and the face was not livid; in the other it seems probable that one pulmonary artery having been previously obliterated, the other became almost instantaneously closed. The immediate result must have been the same, non-oxygenation, and according to Pflüger<sup>1</sup> an insufficiency of oxygen kills much more rapidly than the immense accumulation of carbonic acid.

In the other cases where the symptoms of the fatal attack lasted from a half hour to two hours, sufficient opportunity seems to have been allowed for both factors to take effect, — the diminution of oxygen and the accumulation of carbonic acid.

In conclusion it may be stated that in general the symptoms of suffocation are considered as resulting from the prevention of the entrance of air into the lungs, from an obstruction to the pulmonary circulation, and from the removal of oxygen from the blood. In the differential diagnosis, in so far as it concerns the subject of this paper, it becomes therefore of importance to eliminate from the first two series the productive causes and to combine such elements as may add positively to the diagnosis.

The suddenness of the conditions being their chief interest here, all those forms requiring time for their production may be disregarded, and there remain —

(1.) Closure of the greater air passages or of a large number of small ones, from without or from within. (2.) Nervous lesions, particularly intracranial, affecting respiration and circulation. (3.) Obstruction to the pulmonary circulation from emboli, of blood and air particularly, fat being more gradual in its effects.

The first series may be eliminated by the physical and rational evidence of open air passages.

When an intracranial origin of suffocation exists, the predominant early symptoms are those of cerebral anæmia, namely, pallor, relaxed muscles, disturbed hearing and vision, contracted pupils, fainting, and convulsions. Although dyspnœa may at times precede these symptoms, it is not usually of so severe a character as in the other series.

In favor of the embolic source of the disturbance is the history of an antecedent thrombus or of a disease of the heart likely to be associated with thrombosis. The primary brief disturbance of cerebral function is rapidly, at times almost instantaneously, followed by extreme dyspnœa (Gerhardt<sup>2</sup>) while later the symptoms of cerebral anæmia again become prominent.

Briefly, if in suffocation the symptoms of cerebral anæmia predomi-

<sup>1</sup> Wagner's General Pathology, 563.

<sup>2</sup> Loc. cit.

nate, the source should be sought for in internal hæmorrhage or in intracranial disturbance ; if the thoracic symptoms are most prominent, the air passages or the circulatory apparatus are to be questioned, and the former can most readily be excluded. The only positive evidence in favor of the latter is to be derived from the previous history of the patient.

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## A MODIFICATION OF THE OPHTHALMOSCOPE.<sup>1</sup>

BY O. F. WADSWORTH, M. D.

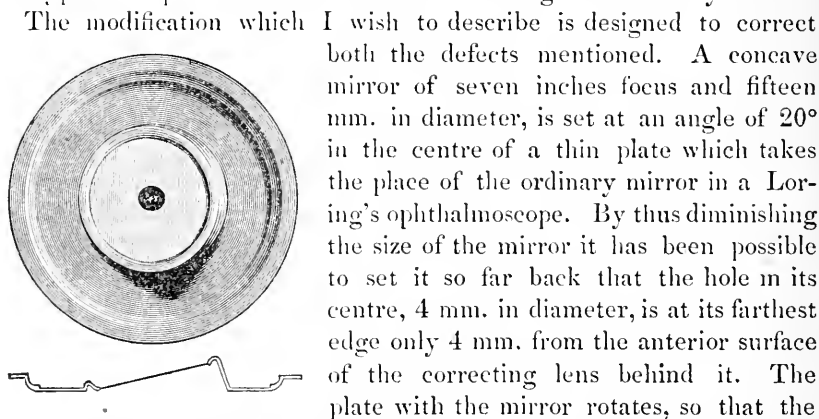
DURING the last few years the direct method of ophthalmoscopic examination (upright image) has come more and more into favor. While it enables the inspection of the background of the eye under a much greater magnifying power than by the indirect method, and is free from the disturbing reflections from the surfaces of the auxiliary lens which attend the latter, it also permits the tolerably close determination of the refraction of the observed eye independently of the subjective impressions of the patient. For the patient the direct method has the important advantage that a far less amount of light need be thrown into his eye, and the often disagreeable dazzling caused by the indirect method is thus avoided.

To the generalization of this method the modification of Loring, which consisted in placing a rotating disk containing lenses of different focal power behind the mirror, has chiefly contributed. In his ophthalmoscope, as in nearly all the various modifications of it which have since appeared, the mirror stands in a plane parallel to that of the disk behind it. To this there is an objection. With such an arrangement, in order to throw the light from the lamp into the observed eye, the mirror, and also the correcting lens behind it, must be placed at an angle to the direction in which the observer looks and which the rays coming from the fundus of the patient's eye to enter his follow. The effect of this oblique position of the lens on the rays which traverse it is as if there were added to it a cylindrical lens, its axis corresponding to the axis on which the spherical lens is inclined. The lens is made practically astigmatic, and the image of the fundus seen through it is distorted as it would be if the observed eye were astigmatic. The degree of astigmatism increases with the increase of obliquity of the lens, and for a given degree of obliquity is proportionate to the strength of the lens. When the mirror is placed in suitable proximity to the observed eye, an inclination of  $20^{\circ}$  is as little as can well be given to it in order to reflect the light into the eye in such a way that the fundus may be seen. For the lower degrees of ametropia the amount of astigmatism caused

<sup>1</sup> Read before the Boston Society of Medical Sciences, December 26, 1876.

by such an inclination of the correcting lens is so small that it may in practice be neglected. But when a lens of high power is needed behind the mirror, that is, with a high degree of ametropia of the observed or observing eye, or of both combined, the astigmatism becomes very considerable (with a lens of  $\frac{1}{2}$  amounting to as much as  $\frac{1}{4}$ ), and no accurate determination of the refraction can be made. Nor can a distinct image of the fundus of an eye with a high degree of ametropia be thus obtained. This latter fact is generally recognized, though the cause is not so generally known.

There are, however, ophthalmoscopes with the mirror inclined to the plane in which the correcting lenses lie, Jaeger's being the most familiar, and to these the above objection does not apply. But in all these, so far as I have been able to obtain knowledge of them, the mirror is so placed that its central opening is at a very considerable distance in front of the correcting lens, and this entails the disadvantage that it contracts the field of view of the observer, and in case the observed eye be hypermetropic it diminishes the amount of light received by him.



The modification which I wish to describe is designed to correct both the defects mentioned. A concave mirror of seven inches focus and fifteen mm. in diameter, is set at an angle of  $20^\circ$  in the centre of a thin plate which takes the place of the ordinary mirror in a Loring's ophthalmoscope. By thus diminishing the size of the mirror it has been possible to set it so far back that the hole in its centre, 4 mm. in diameter, is at its farthest edge only 4 mm. from the anterior surface of the correcting lens behind it. The plate with the mirror rotates, so that the latter may be turned toward the right or left and the instrument be used for either eye. The small size of the mirror offers no impediment to examination by the direct method, since by this method, on account of the nearness of the mirror to the observed eye, only the light reflected from the parts of the mirror immediately about the central perforation can enter the pupil. The small mirror does not, however, give light enough for the indirect method, and it is therefore arranged so that it may be readily detached and a full-sized mirror substituted. But where the ophthalmoscope is in frequent use it will be found more convenient to have a second ophthalmoscope, to be used for the reversed image only, with which a movable clip containing a 10" or 12" convex lens behind the mirror would be sufficient. The large size of the opening in the mirror, 4 mm., offers an advantage in determining errors of refraction, provided the pupil be large, since where the refraction is im-

perfectly corrected it allows the formation of larger circles of dispersion on the retina of the observer, and hence the imperfection of the correction may be more easily recognized. The instrument to which I have had this mirror fitted is one of the earlier pattern of Loring, with three removable disks. The lenses in the later patterns of Loring and in most other "refraction" ophthalmoscopes are too small to admit the use of so large a hole in the mirror with advantage, and with these a smaller hole may be used.

The mirror may be obtained of Mr. H. W. Hunter, optician, 1132 Broadway, New York.

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## RECENT PROGRESS IN PHYSIOLOGY.<sup>1</sup>

BY HENRY P. BOWDITCH, M. D.

### PERCEPTION OF TONES AND NOISES.

EXNER<sup>2</sup> discusses the question whether we cannot suppose that the organ of Corti serves for the perception of noises as well as of musical tones instead of assuming with Helmholtz<sup>3</sup> that its use is limited to the latter purpose only, and that noises (that is, a single sonorous impulse or an *irregular* series of them) are heard by means of the nerve terminations in the vestibular sac and in the ampullæ. The question derives additional interest from the fact that the semicircular canals and the ampullæ are now almost universally regarded as organs serving to the maintenance of equilibrium. Even to the utricle a function of this sort has been assigned, leaving only the sacculus hemisphericus for the perception of noises, unless it can be supposed that the same organ may serve for two such totally different functions as hearing and the preservation of equilibrium. Exner first endeavors to determine whether there is any good reason to suppose that noises may not be perceived by the organ of Corti. To produce a single sonorous vibration he makes use of the snap of an electric spark which has been shown by Töpler<sup>4</sup> to give rise to only one sound-wave. Now it is found that two electric sparks following each other at an interval of only 0.002'' are recognized by the ear as not absolutely synchronous. If this brief interval is recognized by means of Corti's organ we must suppose that certain fibres are set in vibration by the first sound-wave and that before the second wave reaches them, that is, in 0.002'', time enough has elapsed for the amplitude of the vibration to become *perceptibly* diminished. Now, it has been shown by Helmholtz that the fibres in the cochlea are so constituted that when left to themselves after being set

<sup>1</sup> Concluded from page 76.

<sup>2</sup> Pfüger's Archiv, xiii. 228, and Centralblatt, 1876, 756.

<sup>3</sup> Tonempfindungen, iii. Aufl. page 226.

<sup>4</sup> Beobachtungen nach einer neuen optischen Methode. Bonn. 1864.

in vibration, the intensity of their movement is after about 9.5 vibrations only one tenth of the original amount. The most rapidly vibrating fibres of Corti's organ would in 0.002" have time to execute 7.9 vibrations. It is thus evident that in the interval between the two electric sparks the vibrations of these fibres would diminish very perceptibly, and the recognition of this interval by means of the organ of Corti does not therefore seem impossible.

There are, however, various considerations which stand in the way of this conclusion. In the first place the fibres of Corti are supposed to be set in motion only by a rhythmical *series* of sonorous impulses corresponding to their period of vibration, and in this way to give rise to the perception of musical tones. The fact that we can perceive a pure tone without any mixture of noises seems to show that a single sound-wave is incapable of affecting the fibres of Corti, for were it otherwise every tone which strikes the ear would set in motion not only the fibres having corresponding periods of vibration, but many or all of the other fibres, and the tone would always be accompanied by noises.

Exner investigates this subject experimentally, and finds that for the perception of a tone it is necessary that about sixteen or seventeen vibrations fall upon the ear, and he thus confirms the objection to the hypothesis that the organ of Corti can be acted upon by single sonorous impulse.

It may be said in reply to this objection that the single sound-wave produced by the electric spark has perhaps so great an amplitude that it carries the fibres of Corti as far out of their position of equilibrium as the sixteen sound-waves of a musical tone. Exner subjects this hypothesis also to experimental investigation by means of a vibrating flame. A fresh preparation of the middle ear is so arranged that gas can be conducted through it to a burner and the vibrations of the membrana tympani are thus rendered visible by the movements of the flame. By this method it is found that, while a musical tone sounded in front of the external meatus produces distinct movements of the flame, the snapping of the electrical spark has no effect whatever.

Thus far the evidence is decidedly in favor of the view that the fibres of Corti can be affected only by a rhythmical series of sound-waves, but Exner's next observation is difficult to explain on this theory. He listens to the noise of successive pairs of electric sparks in which the interval between the single sparks is variable but always very small, and finds that the shorter the interval between the separate sparks the *higher* the pitch of the noise produced by the pair of sparks, though nothing like a musical tone is heard. In view of this observation we are forced to assume either that there is in the ear a noise-perceiving apparatus which at the same time can distinguish pitch, or else that the noise produced by electric sparks can, in spite of the above-

mentioned evidence to the contrary, be perceived by the fibres of the cochlea.

Exner adopts the latter hypothesis and, by somewhat extending the theory of Helmholtz as to the functions of the organ of Corti, accounts for the observed phenomena. According to Exner the degree of stimulation of a nerve fibre depends not merely upon the *extent* to which the corresponding fibre of Corti is carried out of its position of equilibrium, but also upon the *rapidity* with which the fibre executes the movement. The sound-wave of the electrical spark is, in comparison with the wave of a musical tone, so short that it may be said to drive or tear rather than to draw the fibres of Corti from their position of equilibrium. A fibre of the auditory nerve, therefore, may not be stimulated when the corresponding fibre of Corti is *drawn* to a certain distance from its position of equilibrium, but it is stimulated when the same fibre is suddenly *driven* to the same point. The author's arguments in favor of this hypothesis cannot be well given without a reference to the figures which illustrate the original text and which represent the vibrations of elastic rods under a variety of conditions. It is interesting to notice, as a fact tending to confirm this theory, that all very high and loud tones lose their musical character, and give the impression of shrill noises.

The author concludes as follows: "While the perception of a tone is occasioned by the relatively slow vibration of a small number of fibres, a noise is perceived when all the fibres of the membrana basilaris are driven with comparatively great rapidity from their position."



## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

NOVEMBER 6, 1876. *Hip Disease*. — DR. DWIGHT read the following paper on hip disease: —

A case of hip disease which in some respects may be thought curious will serve as a text for my remarks.

The patient, twelve and a half years old, is of very healthy family in good circumstances. In May, 1875, he was knocked down by a horse and buggy, and there was some question whether the wheel did not pass over his leg, but the very slight inconvenience he experienced leads me to think it did not. Before that he had used the velocipede of the three-wheel pattern worked by the feet, and had experienced an ill-defined inconvenience from its use.

During the last winter he had played and skated as usual, but it was noticed that he walked awkwardly, and that in lacing his boots he put the left leg, as was natural, across the right knee, but that for the right foot he stood up, put-

ting it on a chair. He also fell frequently. He complained of no pain, and indeed appears to have felt little or none, and had not suffered in health.

He was taken to the family physician, a distinguished surgeon, on or about the 10th of June, for clumsiness in walking. The diagnosis of hip disease was made, but there was very little deformity. The right leg appeared a little longer than the other, and the buttock was slightly flattened and broadened. The movements were nearly normal, but rotation outward was limited. To show that he had no tenderness in the hip the boy got on to a sofa and jumped down, alighting squarely and firmly on both feet without flinching.

June 13th, a short Sayre's splint was applied till a Davis's splint could be procured, and tincture of iodine was painted about the joint. As the family left town for the summer the patient was put under my care.

June 15th. The condition was considerably changed for the worse. The splint being loosened, tapping or pressure on the sole produced no pain, but a moderate tap on the great trochanter did, the pain being referred mostly to the front of the thigh. There was no eversion of the foot, but the patient could not bear any weight upon it, not even enough to stand squarely. He complained of no pain except once or twice in consequence of jars which the splint did not break. He walked with the assistance of a cane, sometimes with two.

June 18th. One of the straps having slipped, it was necessary to reapply the splint, which had to be done with great care, keeping the leg firmly extended whenever it was moved, as any jar gave great pain. But very limited movements could be made without causing pain.

July 4th. The acute symptoms had gradually diminished, but there was still much irritability in the joint. The splint seeming to give but little support, the Davis's splint previously ordered was substituted. The thigh had a slight tendency to flexion, but there was pain at any attempt to bend it still more on the body. The new splint was found to give far better support and, having crutches, the patient moved very freely, bearing, however, exceedingly little weight on the splint.

On July 10th the splint broke, through a defect in the fastenings, and was taken off to be repaired, the Sayre's splint being substituted. On July 18th the Davis's splint was reapplied, and it was quite evident that it was far superior to the short one. The knee, it should be mentioned, was left unconfined.

During the acute attack in the last half of June and early part of July, the patient had experienced some loss of appetite and of flesh, but from about this time he improved steadily. Some time later, in the hope of getting him to walk more on the splint, for he was inclined to swing the leg altogether as he walked on his crutches, I confined it to the splint by padded bandages, one above and one below the knee, without any great improvement.

On September 2d, for the same purpose, I put on a ham splint, which seemed to give much support and to be an agreeable change to the patient.

September 7th. On examination I found irritability nearly gone. It had always given pain to evert the foot when the patient was lying down, but it could be done more freely than ever before. The thigh also could be flexed to a right angle with the body. It is to be noticed that before flexion was carried to the point of causing pain, this could be immediately produced by rotating the thigh outward. No special care was necessary in moving the limb.



September 14th. The thigh could be flexed to decidedly less than a right angle.

September 30th. Eversion of the foot, that is, rotation outward of the thigh when the limb was straight, caused no pain. It could be flexed so as to nearly reach the body, and then no pain was felt except on rotation, and indeed not till this had reached almost the normal degree. The patient could stand nearly straight, bearing a good deal of weight on the right leg when the splint was off, and he took one or two steps without it, though in a clumsy and timid manner. When the splint was on he occasionally walked short distances without crutches. The patient was then returned to the care of the surgeon of the family.

The case presents some points that induce me to touch on the hackneyed question of the ætiology of hip disease. The following points may be looked on as settled: first, that the disease occurs most frequently in the strumous; secondly, that it very frequently is of traumatic origin, — statements that are perfectly reconcilable. Authorities differ when we go beyond this. Dr. Gross denies that it is possible for coxalgia to occur in a child whose constitution is not below par, and states that the usual answer to the question as to whether the child has received a fall or an injury is “no.” Sayre, as is well known, is an extremist on the other side, maintaining that the disease is almost always traumatic. In his recent work he gives the following statistics. Out of three hundred and sixty-five cases a traumatic cause was assigned by the patient or parent in two hundred and fifty-seven. In two hundred and seventy-eight the previous general condition of the patient was good, in forty-two bad, and in forty-five unknown. Though somewhat inclined to Sayre’s view of the matter rather than Gross’s, I cannot admit the validity of these figures. It is very common to hear the parent refer the disease to a fall, which fall was really due to already existing disease, though naturally it had not then been recognized. One of the most marked symptoms of the trouble, as no one can know better than Dr. Sayre, is this tendency to fall without apparent adequate cause, and consequently the perfectly honest statements of even intelligent parents are of little real value in this question. On the other hand it is not to be overlooked that, though the fall which was considered the cause is a result, yet the disease may be really due to some preceding fall or injury which occasioned no immediate symptoms of consequence, and was entirely forgotten. Again, it seems to me that the disease may be subdivided into two main classes as regards its origin: in the first it arises within the joint, in the second in the bone. It is, I think, probable that the latter mode of origin is most frequent in evidently scrofulous patients, and I believe that there is no reason to doubt, or certainly none to deny, that a traumatic synovitis of the hip-joint may occur in a healthy child. This is, in my opinion, what occurred in the case I have reported.

The next question is why it occurred, and in what manner. There can be no doubt from the various symptoms detailed that there was trouble in the joint long before advice was taken and the diagnosis made. An anomalous symptom, the inversion of the foot, gives a hint as to the cause. It is an old theory that the disease begins in the round ligament, one which Mr. Adams still holds, but which, as far as I know, is little received. Permit me to

read in this connection a short extract from Bryant's Surgery, the tone of which shows how lightly he holds this view: "The question has never been very warmly discussed as to the origin or not of the disease of the knee in the crucial ligaments, or of disease of the shoulder in the long tendon of the biceps. And yet we find good men and true gravely discussing the origin of hip disease in the ligamentum teres. My late respected teacher, Mr. Aston Key, laid great stress upon this point, and believed that it was from that ligament and its attachments that disease of the hip-joint generally proceeded." Farther on Mr. Bryant gives means of distinguishing disease of the synovial membrane from that of the bone, but says nothing of the diagnosis of disease of any limited part of the joint. It will be noticed that the expression of authors, "beginning in the round ligament," is very vague, as we are in doubt whether or not rupture of the ligament is meant by it. Sayre is more explicit; he writes as follows:—

"Any violent straining of the ligamentum teres, such as may be caused by forcibly stretching the legs apart" (this accident, be it mentioned in parenthesis, is, I believe, impossible), "or by other violent exercise which gives motion to the extreme limits, may partially or completely separate it from any of its attachments to the bones. It is most likely, however, to be separated from its attachments to the head of the femur. When such an accident occurs, the vessels which supply the head of the femur are destroyed, and necrosis follows as the result of interference with its nutrition. Secondary changes soon occur in the cartilages and the synovial membrane, and the case goes on, if not relieved, to the development of the disease in its worst form."

If this picture is not overdrawn (as I am inclined to think it is, for why then do we not have necrosis after dislocation of the thigh, in which case this ligament is always ruptured?), this accident certainly did not occur to my patient. Nevertheless, I believe that his trouble began in or about the round ligament. As is well known this band hardly deserves its name. It is of little strength and seems rather a support for vessels than a means of limiting motion; still there is no doubt that it can be made tense. The experiment of removing the inner wall of the socket enables us to see that it is tense when the thigh is flexed and the limb adducted and rotated outward; that is, when in the position assumed in taking a very high step. The foot may not appear directed outward, but the advancement of that side of the pelvis comes to the same thing. This is the position in which the strong anterior part of the capsule is relaxed, and the limb least supported. There is a certain variation in different persons, in some the ligament being tolerably tense in simple flexion, but usually one or both the elements of adduction and outward rotation are necessary. The motion of the velocipede certainly involves flexion and perhaps rotation outward. For want of a more probable cause, the health of the family being remembered, and owing to the fact that after this amusement the patient experienced inconvenience, I am inclined to think that a strain of this ligament followed by inflammation in it or around it was the origin of the trouble. A slight inflammation probably persisted in the soft parts in the fossa, at the lowest part of the joint. This is perfectly consistent with two striking points: first, the objection to eversion, and second, to the fact that so violent an

impulse as a leap on to the feet occasioned no pain. As to the eversion without flexion being painful, it might be objected that this does not make the ligament tense, but it is to be remembered that under the supposed circumstances the ligament would be thickened and probably shortened so that it would be sensitive to less strain than otherwise. A chronic and slowly increasing inflammation must have been present in the lower part of the socket for a considerable time. When treatment was begun the inflammation spread through the joint, owing to the leap from the sofa, the examinations, and the jolting which the patient suffered in a rough ride incidental to moving. This was followed by a certain effusion in the joint, which under treatment was reabsorbed. The peculiarity mentioned about lacing the boot points this way, for the position of crossing the leg is one that would make the ligament tolerably tense. The history of the case strikes me as a peculiar one, and this explanation as the most plausible. Had there been either general synovitis or otitis, it is not conceivable that the patient should have been willing to leap as he did or that he could have done so without pain.

I now bring up another point, solely in the hope of receiving instruction. It is as to the amount of motion that should be allowed to the knee, and the best splint in cases requiring one. With Sayre's short splint the motion of this joint is entirely unimpeded, but the conditions are not the same as when the long splint is used. In the former case there is but one joint, the hip, between the two points to which the splint is fixed; in the latter there are two, the hip and the knee, which render the mechanics more complicated. Let me also mention in passing that however valuable the short splint may be in the skilled hands of its inventor, it is of but little use with others, and that crutches or at least a cane are necessary to supplement it. Using Davis's splint even, with the knee free, in this case I got much better support than with the short splint, but my experience with other splints, and indeed in this case, is decidedly in favor of confining the knee. It is true no doubt, that a healthy joint is best in motion, but the difference in the degree of support obtained is so great that I believe the sacrifice is worth making. If the knee is left free, the amount of motion in the hip is often more than is desirable. Moreover it is much more difficult to bring the weight of the body upon the splint when the knee moves away from it than when the two are kept together.

DR. JEFFRIES asked if rotation of the limb outwards, making tense the muscles of the joint, was the probable cause of the pain.

DR. DWIGHT thought that moderate rotation outwards did not cause more pain than rotation in any other direction. He was more inclined to refer the pain to the stretching of the round ligament. At first, after the accident, there was no pain whatever; the patient could jump about without experiencing any discomfort, and it was only from the fact of his walking with his foot directed outwards that a consultation was held.

DR. C. P. PUTNAM called attention to the fact that in Dr. Taylor's splint the foot does not rest upon the cross-piece which touches the ground, but that the weight of the leg is borne by the perineal strap.

In reply to Dr. Fifield, regarding the length of the limb, DR. DWIGHT said there was no shortening, but on the contrary a slight lengthening.

*Refraction of the Femur.* — DR. FIFIELD reported the case of a child that was brought to the City Hospital with a fracture of the femur. She was treated after a method highly recommended by Bryant, namely, by having the limb held in an upright position at a right angle with the body by means of a pulley from the ceiling, and by the application of coaptation splints. After four weeks' treatment, the splints were removed, and the thigh was found to be badly bowed outwards, and shortening of an inch and a half had taken place. The child, two weeks later, was etherized and the limb rebroken and treated after the usual method with extension. In three weeks' time union had taken place without deformity and with only a shortening of from one fourth to one half of an inch.

Dr. Fifield reported also the case of a man who suffered a fracture of the upper third of the thigh, by falling from the mast-head of a vessel off the coast of Africa on the 6th of August last. Splints were applied, as best they could, while the patient was lying in the cabin. He was brought to this country and came under Dr. Fifield's care at the City Hospital two weeks ago. At the time of entrance there was shortening of two and one fourth inches, the foot was strongly everted, and a very large callus existed about the point of fracture. The patient was etherized, and the limb refractured much more easily than was anticipated and was brought down so that there was only half an inch shortening. Extension was applied, and at the time of reporting, two weeks after the refraction, the limb was perfectly straight with no eversion or inversion. Dr. Fifield added that Holmes says he has seen a successful refraction at the end of thirteen months. The union in vicious fracture is not solid, and refraction can be made much more easily than one would anticipate.

*Bow-Legs.* — DR. BROWN asked Dr. Fifield if he had ever treated bow-legs in children after this method, and if he would expect any relief from continued pressure in such cases. Dr. Brown said that he had under his care at the Children's Hospital a child with marked distortion of the tibia and fibula treated by continued pressure applied by means of an instrument which he had had constructed for that purpose. The distortion was rapidly disappearing.

DR. FIFIELD answered in regard to the treatment of bow-legs by fracture, that he had seen a number of such cases well treated at the Children's Hospital in Great Ormond Street, London, but he thought that in the early stage continued pressure would serve much better than fracture, and they would be found to bear a great amount of force. Dr. Fifield added that it was well to bear in mind that such cases will get well spontaneously. In green-stick fracture he always made the fracture complete.

*Cellulitis as a Cause of Uterine Version.* — DR. BAKER referred to two cases of left lateral version of the uterus as a result of cellulitis of the left broad ligament. The history of both patients was quite similar in that they were single, about twenty-five years of age, natives of Ireland, and the attack of cellulitis in each case had occurred several years previously and was subacute in character. The symptoms complained of were constant dragging and aching sensations in the left groin, increased very much on any exertion, and great dysmenorrhœa. The treatment consisted in hot vaginal douches, local

application of tincture of iodine (seventy-five grains to alcohol one ounce) per vaginam, and conjoined external and internal manipulations of the bands of adhesion to produce a relaxation so as to allow the uterus to regain its normal position. In one case the treatment brought on a fresh attack of cellulitis each time that it was attempted. The other case recovered after two months.

The interesting feature in these two cases was that the pain should have been on the same side as the adhesions, and that the same treatment should have produced such opposite results.

DR. HILDRETH stated that in one case he had attempted to replace a retroflexed uterus of eighteen years' standing following pelvic cellulitis, and, after a short trial in much the same way as described by Dr. Baker, the patient was obliged to keep her bed for a couple of weeks: after a year, the same treatment was again tried, and she was forced to keep her bed nearly four weeks. He had asked some of his *confrères* what their experience had been in such cases, and found that they had met with similar results. He had seen one case of pelvic cellulitis treated by another practitioner by local applications of tincture of iodine per vaginam, and the patient thought she had been greatly benefited.

Dr. Hildreth asked if it was possible to find out beforehand what cases could be treated in this manner without bringing on a fresh attack of cellulitis.

DR. BAKER said he knew of no way except by making the trial.

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### CORMACK'S CLINICAL STUDIES.<sup>1</sup>

THIS work is a collection of papers on medical subjects which have appeared at various times, either as monographs or published in journals. Many of them will be found to be of value, and we take pleasure in recommending the volumes to the attention of practitioners. The most elaborate of the essays is an account of the relapsing fever, which prevailed in Edinburgh in 1843 and 1844. The author studied this epidemic with the most painstaking assiduity. "The clinical reports — sometimes condensed for publication — were invariably committed to writing, *in extenso*, at the bedside; and the accounts of the post-mortem examinations were all written whilst the appearances were being actually observed." Although so long a time has elapsed since this description was written, but little has since been added to our knowledge of the disease, and it is one of the best descriptions of this singular malady which we possess. The observations on the treatment are eminently judicious, and show that the author was considerably in advance of the therapeutics of his time.

The second paper is composed of three essays on the subject of cholera, which the author considers to be intimately related to malarial fever, the most obvious symptoms being caused by the inspissated state of the blood. In the treatment we are "to bear in mind that cholera is a fever which has its term,

<sup>1</sup> *Clinical Studies, Illustrated by Cases observed in Hospital and Private Practice.* By SIR JOHN ROSE CORMACK, K. B., F. R. S. E., etc. In two volumes. Small 8vo, pp. 548 and 579. Philadelphia: Lindsay and Blakiston. 1876.

and that the serous purging is an exhausting hæmorrhage, doubly dangerous from causing collapse, and leaving the residual blood in an unavailable condition." He is in favor of gratifying the urgent thirst of the patient by allowing him to drink freely of water.

Several papers in the second volume relate to the subject of the entrance of air into the veins as a cause of death, whether occurring during surgical operations or during parturition. Two essays on Reflex Convulsions of Infancy will be read with interest, one of them being illustrated by a remarkable case, which appeared in the journals at the time, of a child who was restored from apparent death by the hypodermic injection of morphia. A case in which death from inhalation of chloroform was averted by inverting the body of the patient, the heels being held uppermost and the head downwards, will be found interesting by all who still employ that dangerous agent.

The most valuable article in the second volume, if not in the whole book, is composed of several papers on the subject of diphtheria, and is the most complete description of the disease which we have met with. Sir John Cormack believes in the identity of croup and diphtheria; in other words, he considers diphtheria a disease and croup a symptom. He says, "I doubt whether a false membrane is ever formed on the mucous surface of the larynx and trachea in 'simple croup,' or in *any affection which is not diphtheria*. I have never seen an inflammatory false membrane in these situations, though I have long been diligently inquiring after them." In this we believe the author is in accord with the majority of eminent authorities in Europe, if not in this country. The treatment advised by the author commends itself as rational. It is tonic and supporting; "in the treatment of diphtheria there is nothing approaching alimentation in importance." We are glad to quote his opinion that emetics are seldom of much use, though it is sometimes proper to employ them; and we rejoice that he condemns the application of caustics to the throat, though soothing and solvent remedies are recommended locally. The question of tracheotomy is briefly discussed, and the operation is advised in desperate cases. An admirable account of paralysis consecutive to diphtheria, and its treatment, concludes the subject.

Several other interesting papers on various subjects are contained in these volumes, but we have sufficiently indicated the scope of the work, and, we trust, conveyed some idea of our high opinion of its excellence.

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#### BENNET ON NUTRITION IN HEALTH AND DISEASE.<sup>1</sup>

THIS is a very clear and instructive book, useful to those who, having no scientific acquaintance with physiology and pathology, desire to understand, in a general way, the laws of nutrition. Such readers may be impressed with the necessity of living conformably to those laws, and instructed how to retrace their steps when they have not wandered too far in the paths of error. The

<sup>1</sup> *Nutrition in Health and Disease: A Contribution to Hygiene and to Clinical Medicine.* By JAMES HENRY BENNET, M. D. 8vo, pp. 248. Philadelphia: Lindsay and Blakiston. 1876.

author conceives that in a large number of cases derangements of the functions of digestion are manifested by urinary deposits which are visible without the aid of the microscope, and which will serve as a warning to the patient and an indication of the course he should pursue. We fear the effect of thus calling the attention of the dyspeptic to the state of his urine will do more harm than good. Most sufferers from that disease are more or less inclined to hypochondriasis, and it is needless to suggest to them what they are usually only too likely to do of their own accord. Every physician has had occasion to dread such patients who are never tired of speculating on the causes and dangers of the common urinary appearances. But the rules for diet, stimulants, exercise, sleep, relaxation, etc., which Dr. Bennet recommends are judicious, and cannot fail to do good if faithfully carried out by the patient.

There are two short appendixes to the book. One treats of the nutrition of plants, and of the influence of heat in accelerating vegetation. The other attempts a solution of the question, "Why do successful medical men often die prematurely?" In Dr. Bennet's opinion the cause is to be found in the overwork which is inevitable to physicians in large practice, and which usually reaches its greatest amount at a time of life when both body and mind begin to require rest rather than increase of labor. The lesson this teaches is obvious, but the necessity for making some provision for the future, which cannot in most cases be done at an earlier period, too often prevents its application.

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### WEAK POINTS OF THE CORONER'S INQUEST.

SOME of the defects in the present law which has reference to the system of conducting coroners' investigations may be illustrated by a case which occurred recently in this city. An elderly gentleman while on his way to church on a Sunday afternoon was instantly killed by the collision of a passing horse-car with a runaway horse and sleigh. Two men were in the sleigh, one of whom was found to be intoxicated. The policeman testified that the other, the driver, was sober. The men were arrested to await the result of the coroner's inquest. Previous to the collision the horse had been brought to a walk on at least two occasions after starting to run, giving the police an opportunity to interfere had they seen fit. The men were allowed, however, to pursue their way. The police became, therefore, in a measure, responsible for the accident in case their duty in this instance had been neglected. Were the men drunk and culpably careless, or did they use every endeavor to restrain an excited animal? was the question for the coroner's jury to solve. It will be seen that they were obliged to rely for information on this point chiefly on the testimony of those witnesses who could be most readily procured, namely, the police, who were naturally interested to shield themselves by testifying in favor of the men. On the other hand, spectators of the various stages of the runaway, who had no personal interest in the result, would not be likely to find their way spontaneously to such a tribunal. We have no fault to find with the manner in which the investigation was conducted in this particular instance. It is evident, however, that in any case involving the safety of human life in the streets

of a city, the investigation should be of the most searching character. This it can hardly be possible to effect with the imperfect machinery of the law as it now exists. The presence of a prosecuting officer for the government, and we might add also of counsel for the defense, would give a weight and completeness to the character of the proceedings which would go far to establish the confidence of the public in coroners' inquests. We might cite more than one example of the value of such officers. In the case in question the men were absolved from all blame; we doubt if this verdict will have much weight with the public one way or the other. Indeed, so greatly have inquests waned in popular estimation that, were we not accustomed to the present state of affairs, it would be startling to realize how little confidence is placed in the decisions of a body whose deliberations most deeply concern the welfare of society.

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### PENALTIES OF DUELING.

THE action of the grand jury in the case of Dr. Phelps, of New York, who attended the recent duel as the surgeon of Mr. Bennett, may suggest to many of our readers the propriety of consulting the laws of their respective States in this matter. In Maine the presence of a person at a duel as a surgeon, though no homicide ensues, is punishable by imprisonment for not more than twenty years, or by fine not exceeding one thousand dollars, and by ineligibility for any place of honor, profit, or trust for twenty years after conviction. The engagement to act as a surgeon at a duel renders the person liable to imprisonment for not less than one year, and to be incapable, as in the preceding section, for five years. In Vermont the presence of any person by previous engagement or appointment as a surgeon on the occurrence of a duel, the result of which is fatal to either party, is liable to imprisonment for not less than five years, or to a fine not exceeding one thousand dollars, and to be forever incapable of holding any place of honor, profit, or trust under the constitution and laws of the State. In Massachusetts the surgeon is liable to imprisonment in the state-prison for a term not exceeding five years, or in jail not exceeding three years, and to a fine not exceeding one thousand dollars. The penalty in Rhode Island is also a heavy one. We would refer our readers for information on this subject to the columns of the New England Medical Register.

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### MEDICAL NOTES.

— F. Kretschy reports in the *Wiener medicinische Wochenschrift* the analysis of a gas obtained from the chest of a patient in Professor Duchek's wards in Vienna. The patient was a woman, twenty-eight years old, and was in danger of suffocation. The gas aspirated from the left pleural sac was found to have 77.130 per cent. of nitrogen, 15.249 per cent. of carbonic acid, a small amount of sulphuretted hydrogen, and finally an inflammable gas which was chiefly marsh gas. A very small amount of oxygen was found, that probably came from the tube used in aspiration.



— By a recent exchange we see that of the seven hundred and forty-one students in the Strassburg University this semester, fifteen are from the United States.

— The *Allgemeine medicinische Central-Zeitung* says that according to the last census, to every ten thousand inhabitants of Berlin there appear to be 7.98 physicians, 0.66 apothecaries, 3.31 midwives; while in the whole kingdom of Prussia to a like number of inhabitants there are 7.39 physicians, 1.26 apothecaries, and 4.94 midwives.

— The memorial day of the late Professor Traube, of Berlin, was on Sunday, December 10th, when his successor, Professor Leyden, read an obituary address at twelve o'clock in the hall of the university.

— The *Journal of Physiology and Anatomy*, begun by Meckel, but better known under the authorship of Du Bois Reymond and Reichert, of Berlin, is divided into two parts, of which one will be continued as a journal of physiology under Du Bois Reymond and Ludwig, of Leipsic, the other as a journal of anatomy under Braune and His.

— The *Prussian Medical Calendar for 1877* contains an article by the versatile Virchow on the causes of death, which is, in short, a cutting rebuke on the nomenclature adopted by many physicians of Prussia. He argues that technical Latin names should be underwritten on every death certificate, and not those vague regional terms which satisfy public curiosity.

The Calendar contains methods of examining anomalies of refraction and accommodation, making use of Schweigger's new types, the advantage of which, if any exists over Snellen's types, is that all the selected letters are such as are printed above a horizontal line, as M, N, O, R, S, etc., and at the same time have no ascending portion; such letters as B, D, H, K, etc., corresponding to the last condition, and F, representing both conditions, are omitted.

— The *Army and Navy Gazette* of Great Britain announces that the unification of the military medical department is now being rapidly pushed forward. In future, instead of a surgeon being attached to a regiment, the latter will be attended by a special sanitary officer. Thus army doctors and those under their medical charge will be complete strangers, till they make each other's acquaintance in hospital. Malingering will flourish; two good features can be realized from the change, however, — the amount of paper-work will undoubtedly be less, and all army doctors must take their share in Indian and colonial service. If no European war intervenes between now and March, about sixty military medical officers will embark for foreign service.

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## MASSACHUSETTS GENERAL HOSPITAL.

### SURGICAL CASES OF DR. CHARLES B. PORTER.

[REPORTED BY G. H. TILDEN, M. D.]

*Tetanus; Free Use of Chloral and Bromide; Recovery* — August 14, 1875.  
C. G., aged eleven years, entered the hospital with an injury to the right arm,

received half an hour previously. The wound, made by a carding-machine, was a superficial tear in front of the elbow-joint. A flap of skin of the size of the palm of the hand had been completely wrenched away from the inner angle of the arm, exposing the superficial muscles and nerves, one or two of the latter lying torn and bare in the wound. No vessel of any size was wounded, and the elbow-joint was uninjured. The arm was placed on an external angular splint, and the wound dressed with simple water dressing. All went well till the fifth day, when the wound and parts adjacent became swollen and inflamed. A poultice was applied. In two days the inflammation and swelling had subsided, but the wound looked dirty and was covered with tough, adherent sloughs. A dressing of "acid wash" was substituted for the poultice. The look of things now speedily improved, and in two days the wound was clean and healthy. The first sign of tetanus was noticed August 27th, thirteen days after entrance. Complaint was first made of stiffness in the jaws, pain in the back of the neck, and much difficulty in chewing and swallowing food. There was no marked febrile disturbance. A blister was applied to the inner side of the arm above the wound over the course of the nerves, and enemas of ten grains of bromide of potassium and seven grains of chloral hydrate in one ounce of water were given every three hours. The next day there was no improvement, the patient not being able to open his jaws more than an inch, and having cramp-like pains in the calves of his legs. Another blister was applied to the arm, and also to the neck over the course of the brachial plexus of nerves. The chloral and bromide were increased to fifteen grains of the former and twenty grains of the latter, given in enema as before, and the wound was dressed with a solution of chloral hydrate, ten grains to the ounce of water. For several days the condition of the boy gradually grew worse; a marked but intermittent tendency to opisthotonos soon showed itself, and his tongue was several times badly bitten by spasmodic closure of the jaws. He was given stimulants, but in the way of food could take nothing but liquids and semi solids. The enemas of chloral and bromide were given as occasion required, sometimes oftener than once in three hours, so as to keep the boy completely under their influence, in fact almost narcotized. As long as he was thus kept the spasmodic contractions of the muscles were controlled, the patient being drowsy most of the time. Any source of irritation, however, such as the endeavor to take food or being moved or handled, was almost sure to bring on an attack of muscular contraction, more especially in the muscles of the jaws and of the back of the neck. The tendency to opisthotonos became more constant, the boy lying in bed with his back slightly arched. After the first few days he showed the erythematous blush of the skin due to the influence of the chloral, and at times his pulse became very rapid and his pupils contracted. On September 6th, ten days after the appearance of the disease, there began to be some diminution in the violence and frequency of the spasms, and some improvement in the general subjective feelings of the patient. On the next day, however, his mother, contrary to the most strongly expressed advice, insisted on taking the boy home. About a month afterward she reappeared with him. He had entirely recovered, after having had several attacks of muscular spasm since leaving the hospital.

Throughout the whole course of the disease the wound looked well, and was almost entirely healed when the boy came back.

In ten days this boy, aged eleven years, had of chloral hydrate eight hundred and five grains, and of bromide of potassium one thousand one hundred and fifty grains, being an average of eighty grains of the former and one hundred and fifteen grains of the latter every twenty-four hours.

*Carbuncle ; Subjacent Abscess ; Operation ; Recovery.* — September 21, 1875. M. E., aged sixty-one years, was admitted to the hospital with a carbuncle the size of a small dinner plate between his shoulders. It had existed for a month, and on entrance measured six by eight inches. Suppuration had begun, as was shown by the "pepper-box" look of the surface, in which were many small vent holes discharging pus. The patient, originally a robust man, gave a history of overwork and underfeeding, and was in a very feeble state from unrelieved and excessive pain. A large carbolized poultice was applied to the carbuncle, and the patient was given extra diet, with ale and milk punch. During the next six days the condition of the patient did not improve, but on the contrary became worse. He suffered much from pain and from a persistent diarrhœa, occasionally having a severe chill. The carbuncle, however, did not seem to be spreading. He took large quantities of alcoholic stimulants and opium, and also was given ten grains of carbonate of ammonia three times daily.

September 28th. Pain and diarrhœa had reduced the patient to a very feeble state. Having been carefully etherized, deep and free incisions were made into the carbuncle, extending from edge to edge, and crossing each other in the centre at right angles. The quadrant-shaped flaps thus made were thoroughly undermined by the combined use of the knife and fingers, and the thickened and infiltrated tissues were fully exposed. Beneath the carbuncle and burrowing around under the deep fascia of the back was almost half a pint of pus which was evacuated. The hæmorrhage was checked by the use of liquor ferri perchloridi, and the wound dressed with a solution of carbolic acid, one part to forty. At the close of the operation the man was seemingly in a dying state, his pulse being almost gone. He was at once given an enema of brandy, and during the day had by the mouth brandy in small quantities at short intervals. In the evening he was much improved, and the next morning said that he had passed the most comfortable night since coming to the hospital.

For two weeks after the operation, although in a great measure free from pain, his condition was unstable and fluctuating. An obstinate diarrhœa was the great drawback. The wound meanwhile did as well as could be expected under the circumstances. The sloughs all came away by October 10th, leaving a large raw surface nearly six inches in diameter and ready to granulate.

October 12th. For two days the diarrhœa had been growing worse and the patient weaker. He was now in such a wretched state that reasonable hope of his surviving the day was wanting. The medicines, opium and quinine, that he was taking were stopped. During the day he was given a pint of champagne in divided doses, and of milk punch made with brandy as much as he would take. He also had enemata of starch and opium, *pro re natâ*, and by the mouth a mixture of tincture of kino, tincture of catechu, and tincture of capsicum, equal parts, a teaspoonful every three hours. The next day, contrary

to expectation, he was stronger and had less diarrhœa. From this time, at first slowly, afterwards more rapidly, he improved without relapse, having been rescued from his desperate strait only by the native vigor of his constitution. The granulating surface on his back was dressed with charpie and myrrh; he was out of bed on November 8th. and was discharged, well, November 23d.

*Incised Wound of the Knee, with Section of the Ligamentum Patellæ.* — June 23, 1876. M. G., aged thirty years, while mowing, cut his leg with a scythe, and was brought to the hospital four hours afterwards. He had received an incised wound two and a half inches long, on the front of the left leg just below the knee. The cut was transverse to the long axis of the limb, and the ligamentum patellæ had been completely severed just above its insertion into the tubercle of the tibia. At the time it was impossible to ascertain whether the knee-joint was involved without an examination of the wound, inquisitive rather than necessary or advisable. The cut edges of the ligamentum patellæ were brought together with three sutures of carbolized strands of Chinese silk, and one vessel was tied with a ligature of the same material. All the ends of both sutures and ligature were cut short. The wound was then washed out with an aqueous solution of carbolic acid, one part to forty, and its cutaneous edges were united with sutures of carbolized silk. The leg was placed on a ham splint, and the wound was dressed with cotton batting kept saturated with an aqueous solution of carbolic acid, one part to eighty. Ice-bags were applied to the knee. On the 27th all the sutures were removed, and by June 29th there was good and perfect union of the edges of the wound. The patient suffered but very little pain, and there was but a slight and temporary swelling in the immediate vicinity of the wound. The cotton-batting dressing and ice-bags were kept applied for one or two days longer, and from motives of prudence the man was kept in bed with a splint on until August 3d. The splint was then removed, and the function of the ligamentum patellæ was unimpaired. Discharged August 7th.



## THE TREATMENT OF CHANCROIDS.

MESSRS. EDITORS, — Dr. Greenough's article, in your number for January 11th, suggests comment. If Dr. Greenough's experience is the average for your locality, the Boston chancroid is certainly a milder affair than the affection as we see it here. In hospital practice phagedenic chancroids with extensive destruction of the prepuce are by no means uncommon; loss of the entire glans is less frequent, but cannot be considered a curiosity, and destruction of the major part of the corpora cavernosa, and even of the entire penis, I have seen on several occasions. The use of iodoform as described by Dr. Greenough has been the common practice at the Charity Hospital for several years, in some cases preceded by nitric acid, but usually not. In 1875, three hundred and seventy-six cases were under treatment, and the average period of cure was about thirty days, which certainly does not equal the brilliant results recorded by Dr. Greenough. This further leads me to believe that our average hospital chancroids are severer lesions than those met with in your city, un-

less Dr. Greenough's were mainly perambulating cases. I admit the thorough inefficiency of nitrate of silver in these cases, and do not think that nitric acid is very much better. I therefore replace them with a stronger caustic, the nitrate of zinc (vide *New Remedies*, March, 1876) or one still stronger, the actual cautery. This latter must be used at a *white* heat or not at all. Red heat will do more harm than good: it simply causes a burn, with a slowly separating slough, flabby granulations, tardy healing, and a retractile cicatrix. The results obtained by the actual cautery have been detailed elsewhere (*Arch. of Clin. Surg.*, Nov., 1876). An anæsthetic is rarely necessary, but when it is demanded I employ nitrous oxide (in private practice), usually administering it myself. The disagreeable odor of iodoform may be obviated in great measure by using a saturated ethereal solution, which appears to be fully as efficient as the powder. It is also admirable as an injection in cases of subpreputial chancroid complicated with phymosis. The solution should be thoroughly protected from the light. Respectfully yours, HENRY G. PIFFARD, M.D.,  
Surgeon to Charity Hospital, etc.

NEW YORK, June 13, 1877.

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JANUARY 13, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	459	22.16	27.46
Philadelphia	850,856			22.24
Brooklyn .	527,830	189	18.62	24.31
Chicago . .	420,000	173	21.40	20.41
Boston . .	363,940	128	18.01	23.39
Providence	103,000	34	17.16	18.34
Worcester .	52,977	19	18.65	22.00
Lowell . .	53,678	26	25.18	22.21
Cambridge	51,572	17	17.14	20.54
Fall River	50,370	13	13.42	22.04
Lawrence .	37,626	17	23.49	23.32
Lynn . .	33,524	10	15.51	21.37
Springfield	32,976	9	14.19	19.69
Salem . .	26,739	15	29.17	23.57

Normal Death-Rate, 17 per 1000.

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DR. GERRY'S CASE OF INTUSSUSCEPTION.

MESSRS. EDITORS, — I notice in your reports, in to-day's JOURNAL, of the above very interesting and important case, that Dr. Bowditch is quoted as having said that "in his opinion the patient did well in spite of the treatment, not owing to it." As the treatment from June 29th to July 15th (including, beyond all doubt, the entire period in which the intestine would be in peril from improper treatment) was dictated by myself in consultation, and was, I am convinced, the means, humanly speaking, of saving the patient's life, I may be permitted to reply to this somewhat trenchant criticism. The patient had, before calling either Dr. Gerry or myself, taken large doses of a purgative, peculiarly stimulative, of peri-

staltic action (infusion of senna without carminatives). I found him suffering from an obstruction of the intestines, the cause of which was very obscure. A careful examination of the abdomen revealed the presence of a large solid mass in the cæcal region; there was no doubt of this at all, but the cause of this lodgment of faecal matter was not evident. At one very limited point there was tenderness, increased on pressure, but by no means very marked even then. This point corresponded with the junction of the large with the small intestine, and was the seat, also, of acerbations of an evidently spasmodic character. There was little or no tympanitic distention of the intestine. Dr. Gerry and myself, after administering a moderate hypodermic dose of morphia, which almost immediately relieved all pain and made the patient entirely comfortable, retired to consult. All probable causes of obstruction were fully discussed, including intussusception, and with the full knowledge that this might be the trouble the treatment which was faithfully pursued was agreed upon. It consisted essentially of (1) morphia, hypodermically, in sufficient doses, *pro re nata*, to relieve pain and control the tendency to spasmodic action of the intestinal muscular coat; (2) very large warm demulcent enemata frequently repeated. In advising these I stated the very marked benefit which I had recently obtained in an obstinately persistent and apparently almost hopeless case of obstruction at the sigmoid flexure, by filling and distending the intestine below the point of obstruction so that its outline could be felt and *seen* as a large pyriform tumor. (I prefer such injection to the "classically" correct inflation with air, (1) because the warmth has advantages, (2) because the distending space can be more accurately measured, and the by no means visionary danger of ruptured intestine avoided). The chief object of these enemata was by no means expressed by the castor-oil and oil of turpentine which entered, in very small proportion, into their composition; that object was to apply pressure and a moderate distending force from below, and, if the faecal mass could be reached by them, to effect its solution and dislodgment. (3) The usual presentations to the abdominal surface. It was not till my third visit, when examination revealed the fact that the obstruction had yielded, that a few grains of blue-pill followed by a gentle cathartic were advised. Pain had then almost entirely disappeared, but one bad symptom, and the only one, of gangrene, which the case had presented, coldness of the hands, remained. On the following morning the hands had recovered their natural warmth, the surface of the abdomen and its contents *apparently* a normal condition, and all vomiting and pain had entirely ceased. This striking change and improvement was exactly coincident, first, and in great measure, with the movement outward of a great accumulation of faecal matter; finally and completely with its discharge, as evidenced by two *pots de chambre* filled with a thick, clay-colored fluid, evidently dissolved scybala. The relief was *not* coincident with replacement of the intussuscepted intestine, of course, nor with discharge of the dead and dragging mass of tissue, for that did not come away till nearly three weeks after. It is well worthy of notice how very comfortable, on the whole, the patient was, with over seventeen inches of dead *ileum* in the canal, and how regularly during all this time he had his daily dejections. I regret that the courtesy of an invitation to the meeting of the Suffolk District Medical Society was not extended to me, and that I was ignorant beforehand of the reading of Dr. Gerry's report. A few words there would have saved you and myself the trouble of this communication, which is made rather that another shall not be blamed for treatment for which I am responsible, than from any particular personal sensitiveness to *ex cathedra* criticism. Formidable as is the critic, I would most gladly meet him in a fair discussion of the treatment of intestinal obstructions, and, in the mean time, although not entirely ignorant of text-book learning on this point, assure him that my treatment of another patient presenting exactly the same symptoms as did Dr. Gerry's would be precisely what his was, on principle and not simply because he did so well.

HENRY AUSTIN MARTIN.

27 DUDLEY STREET, January 18, 1877.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday, January 27th, at seven and a half o'clock. The following papers and cases will be read: —

Dr. C. J. Blake, Herpes Zoster Auricularis.

Dr. J. C. Warren, Cases of Conservative Surgery.

Tea, etc., at nine o'clock.

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## A FEW WORDS ON "UNFORTUNATE RESULTS OF VACCINATION."

BY HENRY A. MARTIN, M. D.,

*Brevet Lieutenant-Colonel and late Staff Surgeon, U. S. V.*

AN article in this journal for December 21st records one perfectly normal, one fatal, and two very irregular results of vaccination with one lot of humanized vaccine points, presumably from the same vacciner; also, entirely negative results from previous inoculation of the same patients with one package of what was said to be "fresh cow matter," and quite irregular though unimportant phenomena following the use of a second package of "cow matter." All these different lots were obtained from the same "reputable vaccine purveyors." There could not be a better text than Dr. Adams's report for a very extended series of remarks on a subject of prodigious importance to the medical profession and humanity, in regard to which the most singular indifference seems to exist, namely, the comparative value and *safety* of the two varieties of vaccine virus: the animal, or "bovine" (original *spontaneous* cow-pox, transmitted by inoculation through a continuous series of young bovine animals), and the "humanized" virus (cow-pox which has passed through one or more human subjects). If Dr. Adams had given the names of the "reputable purveyors," he would have done a real service in warning his *confrères* of at least one very unreliable source of vaccine supply. As it is, his report throws a suspicion on all who have devoted themselves to this, in the absence of all state or national vaccine institutions, infinitely important specialty. Hardly a day passes that I do not receive reports of utter, often-repeated failure and of bad results of virus procured from a firm of "reputable vaccine purveyors," not physicians, but traders, totally ignorant of everything connected with vaccination, who, simply for the sake of a few additional dollars of income, assume a responsibility which should never be taken except by a physician thoroughly familiar with human vaccination, with the really difficult details of vaccination of animals, and personally cognizant of the source and quality of every particle of virus which he issues. I cannot doubt that if phy-

sicians would note and report instances of *repeated total failure* and ill results of vaccine virus, with a distinct indication of the source or sources of such unreliable supply, they would do a valuable service to the profession. Dr. Adams's results with so-called "cow matter" are precisely identical with those observed by hundreds, possibly thousands, of physicians who have obtained supplies procured by men utterly ignorant of the extremely short period in the brief course of the cow-pox in the animal during which the virus is in its highest condition of perfection. Efficient fluid virus may be obtained from the human vesicle as early as the sixth, or even the fifth day, in minute quantity; and from that time till the tenth or eleventh day, or even later; so long, in fact, as a particle of *clear*, undesiccated lymph exudes from the punctured circle surrounding the umbilicated centre.<sup>1</sup> In the heifer, on the contrary, the whole course of the disease, from the insertion of the virus till complete desiccation and the formation of the scab, is generally less than ten days, although the crusts are too adherent to be easily removed before the thirteenth or fourteenth day. Virus is secreted in the cells of the so-called vesicle rapidly and for a very brief period, during which it is in perfection. Before that time, a clear fluid may be obtained by pressure, but it is simply serum, and inert; after that time, too, pressure will exude a fluid, but in a vast proportion of cases that fluid partakes but feebly of the qualities of good vaccine virus. I do not propose, at this time, to discuss the reasons for this fact, but that it is a fact every close observer of vaccina<sup>2</sup> in the animal will admit. The knowledge of the exact period at which to obtain perfect virus is the one great and essential item of knowledge necessary to success in the specialty of animal vaccination. Dr. Adams's first package was either old and on that account inert, or it was collected from animals whose vesicles were not of cow-pox at all, or were at a period when they contained no efficient virus. His second lot was probably procured when the operator's forceps squeezed out serum, fibrine, blood globules, and perhaps pus, but no vaccine virus, or very little, and that little in a deteriorated state. I say "perhaps pus" because the slight effects, efflorescence, hyperæmia, etc., noticed in two of Dr. Adams's cases, are

<sup>1</sup> Let me not be misunderstood as countenancing, much less recommending, the taking of virus for use from the arm at any time from the fifth or sixth to the twelfth day. Such practice has been the fertile source of imperfect and spurious vaccina. Virus should be taken when the vesicle has reached perfection of form and development, but before the slightest appearance of the areola. The time from insertion of virus cannot be given, for there is a wide difference between cow-pox and humanized virus in the time at which the areola appears and, in a less degree, not only between different "stocks" of humanized virus, but between different individuals vaccinated from the same stock. Before the appearance of areola there is no pus in or around the vesicle; afterward there is no security from its admixture with the lymph.

<sup>2</sup> Vaccina is the original and correct nomenclature. I do not wish to be pedantic, but see no good reason why it should have been changed, or, if changed, why we should not have variolia, scarlatina, etc., etc.



precisely such as are often seen after inoculation of pus in the earlier stages of decomposition. The results of the use of pus and other animal matters in a more advanced stage of putrescence (for example, the fearful series of cases at Westford in 1860, and a number of cases during the small-pox epidemic of 1872-73 in Boston, both from the use of decomposed and putrid solutions of native humanized and imported so-called animal vaccine scabs) are among the most dreadful accompaniments and sequelæ of vaccine malpractice.

It was more than two years before I fully ascertained the state of the vesicle in the heifer, in which virus exists in its most desirable condition. A want of that knowledge was the cause of frequent failure with the virus as first procured and issued by myself; the same lack of knowledge is one of the principal reasons for the failure of virus now issued by many propagators, and has been at the bottom of most if not all the rational objections to animal vaccination. It is not possible to state the number of hours after vaccination at which virus should be taken from the animal; the time varies from different causes, but a thorough familiarity with the phenomena of vaccina in the animal alone enables the operator to select the time at which the vesicle should be opened. The veriest tyro may hit it in his first attempt, by accident, and may wonder why he fails subsequently, again and again. Any one issuing animal virus may in this way now and then send out virus of the most perfect efficiency amid a host of failures, but unless he possess the critically accurate knowledge referred to he can never be relied on in all cases and at all times and seasons for suitable material for vaccination. Failures with properly collected animal virus of a proper degree of freshness is a very rare circumstance indeed, always supposing that it is used properly and with due care; while, judging from many reports which have reached me, success with that almost constantly issued by some producers is, no matter how skillfully employed, even rarer. I have repeatedly been informed of cases in which three, four, five, and six successive lots of "animal vaccine" have been used with total failure in every instance. The annoyance and blame to physicians, the trouble and even danger (from lack of protection) to patients, and, above all, the infinite injury to the cause of animal or true cow-pox vaccination are incalculable. Such continued and *repeated* failure in the quality of virus is inexcusable, and is the result, invariably, either of neglect, ignorance, or fraud on the part of the propagator or dealer.

I am very familiar with the phenomena described by Dr. Adams as following his use of humanized virus. I have never seen a fatal case in civil practice, but his other results I have witnessed a great many times. I saw one fatal case of revaccination followed by enormous axillary and thoracic abscess, and knew of several others during the

two years of my military service. Besides these, a great many cases of severe disease and lasting injury came under my observation, all traceable to gross malpractice in selecting the vaccinifer, or from using the crusts of retrovaccination which were furnished by contract, in vast quantities, to the army during the war, and did not produce in any instance of thousands within my knowledge anything like vaccina, but in hundreds of cases phenomena of septic inoculation. This rubbish was particularly recommended to the acceptance of the surgeon-general as being true animal virus; its bad reputation has been one of the numerous stumbling blocks in the way of true animal or cow-pox vaccination meeting with that full acceptance and enthusiastic approval which are its due.

In civil practice I have as yet seen no death which could fairly be attributed to vaccination (however abominably done) except the three cases in Westford, in 1860, but many cases in which severe disease has followed humanized vaccination. I have over and over again seen bad results when one arm was inoculated with long-humanized virus and the other with cow-pox, and invariably on the side in which the former was inserted. The humanized side would go through its regular course, perfectly, to the formation and decline of the areola (seventh or eighth to ninth or tenth day), but the process of desiccation of the vesicle and formation of typical scab would not occur; in its place an excavated ulcer appeared, covered by a soft, thin crust which fell off and was renewed every few days, running an indefinite, and often, unless surgically treated, very tedious course; while on the cow-pox side the vesicle (the areola of which always commenced at the end of the ninth day or more frequently in the first half of the tenth, and fully declined at the close of the twelfth day or even later, precisely as described by Jenner, Willan, Coxe, Waterhouse, and a host of early vaccinators) became desiccated with perfect regularity, forming a firm, dark, umbilicated crust, the exact image, on a reduced scale, of the vesicle at its highest perfection, and fell off, or was capable of easy and painless removal from the twenty-first to the twenty-eighth, thirtieth, or even thirty-second day. At the time when I had both the English national vaccine stock and cow-pox, I supplied a great many physicians with both, and urged them to repeat this experiment and verify my assertions in regard to the constantly observed difference in the form, course, and duration of the two sorts of vaccination, the exact correspondence of animal vaccination with that described by Jenner, and its wide difference from the results of the use of the best stock of long-humanized virus. I should be happy to do this now if I still continued the propagation of the so-called "Jennerian" stock. If readers wish to repeat this experiment, let them remember it must be made with virus of *long* humanization. I never made a trial with lymph of early removes

from the cow; it is possible that some of the same phenomena may be observed in its use, but I have no experience on that point.

In all that I may write, particularly as to the deterioration in vigor of humanized virus, I am to be understood as *always* referring to that which has passed through a large number of human systems. The deterioration after the second remove from the cow is very gradual indeed, easily noticed if vaccination with the twentieth remove be contrasted with that of the third, but *not* by comparing the twentieth with the nineteenth remove. It is quite possible, and indeed probable, that vaccination with *early* human removes is perfectly protective, as much so to all intents and purposes as that with cow-pox, and I do not think that the liability to erysipelas has yet been noted with the first three or four removes from the cow. Now I always use the animal virus, not because early removes *may* not be just as good, but because vaccination with virus direct from the animal has alone been proved to be absolutely protective from variolous disease (when done at any time after puberty) in every case, and also entirely exempt not only from erysipelatous complication but from all chance of syphilitic and other possible contamination. A great deal of error has arisen from contrasting effects of—say the third or fourth remove with those of cow-pox. If physicians wish to satisfy themselves as to the deterioration of virus, let them get, if possible, virus of eight or ten years' humanization and contrast its effects with those from the use of that *direct* from the heifer obtained by the method of animal vaccination. It may well be doubted whether such virus can *now* be obtained in America, as probably all now used on this side of the Atlantic is of comparatively early removes from the "stock" first issued here by myself in September, 1870. I think, however, that just the right virus can be obtained by application to the National Vaccine Institution of England. Virus very frequently received by myself from that admirable institution always proved the best possible lymph of *long* humanization. If it could be ascertained at what human remove from the cow permanent protective power first becomes impaired to an important degree, and if such virus could be fully insured from syphilitic contamination and liability to erysipelas, etc., all rational objections to the use of *early* human removes would be ended. Such knowledge and security are not attainable, and therefore the only absolutely safe course is to use either virus of original cow-pox or that transmitted through a series of selected bovine animals.

Erysipelas, the bane of vaccinators, not the vivid and wide areola, that sure mark of a perfect vaccination, which is often called erysipelas by those who mistake the proof of perfection of virus for a sign of its violence and deficiency, but *true* erysipelas, is a disease peculiar to vaccination with humanized lymph, and has never followed vaccination with true animal virus. Erysipelas is a disease of which the occasional

occurrence is inseparable from vaccination with humanized virus. It is apt to complicate the most perfect development of the vesicles and areola resulting from the use of that virus; in fact I have very seldom known it to follow any other than a "fine arm." No care in the selection of virus, no study of seasons or of the condition of patients, affords any means of escape whatever. During the sixteen years in which I supplied humanized virus, the presence of this pest in my own practice and in that of my correspondents was the one great and serious drawback, the one formidable source of anxiety and blame. Since I have issued bovine virus to a far greater extent, and to from eight thousand to nine thousand correspondents, for the vaccination of large cities, towns, factories, and bodies of troops, I have never received a single complaint of the occurrence of erysipelas. It is said to attack particularly cases of revaccination, but in 1872-73 I revaccinated about twelve thousand patients with my own hand, and there was not one case of erysipelas among them all, nor have I ever known a case following the use of bovine virus at any other time.

It is certain that with virus from my stables over one million of vaccinations have been made, involving the production of many millions of slight, cutaneous wounds. From other producers virus has also been issued to vaccinate a great many people. Not one case of erysipelas can, to my knowledge, be connected with this host of vaccinations and revaccinations *direct* from the animal. Fatal cases of erysipelas reported as following the use of this virus were the result of vaccination with virus of the tenth, twentieth, or thirtieth human remove, and not with that direct from the animal.

The reason why, in February, 1873, I abruptly ceased to propagate and collect humanized virus was because in one week of that month I had five cases of erysipelas. They were all in children vaccinated on one arm with the institution "stock" and on the other with cow-pox; and in every instance the disease appeared on the humanized side. I had previously had four precisely similar cases scattered over the preceding two and a half years, and contemplated an eventual abandonment of the old stock;<sup>1</sup> but this epidemic determined me at once to discontinue vaccination with humanized virus.

I shall be happy to have an opportunity to discuss at length this fact, now first publicly announced, but shall regard no answers to my an-

<sup>1</sup> I feel now that I continued the use of humanized virus too long; my only reason for not discontinuing its use much sooner was a desire to supply my *confrères* with means of demonstrating the great difference between *true* animal virus and that formerly in use, and this could be done only by the experiment above alluded to. If I had not become absolutely convinced that I had no moral right to do so, that continued humanized vaccination meant continued "bother" and suffering to mothers and infants, and continued danger from erysipelas, I suppose I should still have propagated the old "stock" for the same purpose, saving my conscience by vaccinating *one* arm with cow-pox.

nouncement of it, unless they are supported by *undoubted* cases of *true* erysipelas following vaccination or revaccination with *undoubtedly* authentic *true* animal virus, that is, virus which (without ever having passed through a single human system) has been transmitted through a series of bovine animals from an original *spontaneous* case of cow-pox, like that of Beaugency.

In Dr. Adams's cases there is no real proof that the points in the package were all from one arm, taken at the same time; but still, diverse as were the results, that is quite possible.

In September, 1870, I introduced into America the method of *true* animal vaccination; for some three months I alone supplied cow-pox or animal virus. For nearly three years I had but one considerable competitor. During this time anything which I might have written in favor of animal vaccination would have been open to uncharitable criticisms; but now, when my rivals literally swarm in every part of the country, I feel that the situation is changed, and that I have no right to withhold longer from the profession whatever may be valuable and suggestive in my experience in the specialty of vaccination, and everything connected with it.

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### KERATO-CONUS; OPERATION BY BOWMAN'S METHOD; RESULTS.

BY WILLIAM SHAW BOWEN, M. D. HARV.

*Ophthalmic and Aural Surgeon to the Hartford Hospital.*

MR. J. F. B., aged thirty, marine carpenter, came for consultation October 19, 1875, on account of "increasing near-sightedness." Has worn concave glasses for eight years, and during that time has changed them frequently. Observed "a difference in the sight of the eyes" five years ago. Now wears  $-\frac{1}{2}$  spherical for both eyes. Has had no pain or photophobia. With pupil dilated with atropine, right eye,  $V = \frac{1}{2} \frac{5}{10}$ ; left eye,  $V = \frac{1}{10} \frac{5}{10}$ . With a concave cylindrical glass, right eye,  $V = \frac{1}{2} \frac{5}{10}$ ; left eye,  $V = \frac{1}{4} \frac{5}{10}$ .

The ophthalmoscopic erect image showed the characteristic central red reflex, surrounded by a dark zone, which again faded off into a reddish one at the periphery of the cornea. There was a parallax when the convex lens was moved in front of the eye. The apex of the cone was central in the right and slightly downwards and inwards in the left eye, just within the apex of the oblique triangle formed by the intersection of the vertical and horizontal corneal meridians. The left cornea was normally transparent, but the apex of the right was irregularly opaque from exposure and lack of proper lubrication by the tears. The evils of the increasing opacity were pointed out to the patient, who consented to an operation for relief. A large-sized Bowman trephine,

made by Weiss, of London, was selected, and, the patient being under ether, a disc of corneal tissue consisting of the external epithelial and of the thinned middle fibrous layers was removed without penetrating the anterior chamber. The cornea was unusually rigid and the distention was quite uniform, there being no appreciable difference in the thickness of the removed disc at its margin. Descemet's membrane bulged forwards and filled the opening, and, the pupil having been previously contracted with Calabar extract, a small opening was made in the distended membrane directly over the centre of the pupil, allowing the aqueous to dribble away without the risk of anterior synechia. A cold compress was applied, confined by a Liebreich pressure bandage. In two days this was removed and atropine was instilled. The corneal zone was rosy, and the iris turgid. Atropine was instilled every day, and the compress continued for a week. The iritis was moderate in severity, accompanied by but little pain, and the condition of the patient was generally comfortable. Fourteen days after the operation the aqueous ceased to exude, and on the twenty-first day the corneal cicatrix seemed complete. There was a slight elevation at one point of the union, which was touched with caustic and disappeared. The cicatrix was hard, white, and moderate in extent, surrounded by a haze of infiltration, which, however, did not extend to the periphery of the cornea.

March 29, 1876. The cicatrix was central and circumscribed, the surrounding infiltration absorbed, and the cornea perfectly free from irritation. The staphyloma was apparently reduced, and the corneal curve normal; iris free in its motions. A small iridectomy downwards and inwards was made.

April 15th. Fitted for the eye  $-\frac{1}{4}\frac{1}{2}$  sph.,  $\odot -\frac{1}{30}$  cy. Axis, horizontal.  $V = \frac{1}{8}\frac{5}{6}$ . A cylindrical glass was provided for the left eye.

December 2, 1876. No apparent alteration in appearance of the cornea save a modification in the size of the leucoma from the cicatrix. This was now tattooed with India ink in glycerine, accomplished in two sittings. Previous to the tattooing  $V = \frac{1}{8}\frac{5}{6}$ .

Mr. Bowman says: "My experience thus far induces me to recommend this operation in even the earlier stages and slight degrees of conical cornea, as a smaller extent of cornea need then be involved, and there must then be a better prospect of recovering a quite normal curvature than if the operation be delayed until the bulge grows greater. A considerable advantage of this method would seem to be that, by its harmlessness, it will admit of being applied to a number of slight and incipient cases which the surgeon has hitherto been very timid in meddling with, notwithstanding they are attended with great defects of vision which no optical contrivance will correct."

While it must be admitted that all operative procedures for the relief of visual loss in staphyloma pellucida are as yet in their infancy, it cer-

tainly seems that, from observation of a number of cases operated on by Mr. Bowman and others, the trephining process is thus far the most satisfactory of all that have been devised, and will afford the best results, although the operation is not so free from danger of sloughing of the cornea as Mr. Bowman's especial interest in it leads him to imagine.

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## RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

*Retropharyngeal Abscesses in Children, and Lymphadenitis Retropharyngealis.*<sup>1</sup>—The author, in the article from which the following abstract is taken, gives the result of his observations in one hundred and forty-four cases of the former disease and forty-three of the latter.

The one hundred and forty-four cases are classified as follows: one hundred and twenty-nine idiopathic retropharyngeal abscesses; three secondary retropharyngeal abscesses, resulting from the sinking of pus from abscesses of the neck; four secondary retropharyngeal abscesses, occurring in the course of spondylitis cervicalis; seven retropharyngeal abscesses in the course of scarlatina; one traumatic retropharyngeal abscess, caused by a foreign body.

Of these abscesses, one hundred and two were opened with a bistoury in the pharynx; five, by pressure with the finger in the pharynx; in nineteen an opening formed spontaneously in the pharynx; eighteen remained unopened.

Of the one hundred and forty-four cases, eleven died, one hundred and twenty recovered; thirteen cases were lost sight of, being out-patients.

The author in common with Roustan, Gautier, and Schmitz<sup>2</sup> regards the origin of these abscesses as always an inflammation of a retropharyngeal gland. The accumulated clinical observations, the anatomical relations of the retropharyngeal glands and their pathological action, all support this view which the author now adopts, though in an earlier article upon the subject<sup>3</sup> he considered this disease to have its beginning in an inflammation of the mucous membrane.

The greater number of these abscesses occurred on the right or left side; and on the corresponding side there was always a swelling at the angle of the inferior maxillary bone. In a very few cases the abscess was on the median line of the posterior wall of the pharynx. Of those

<sup>1</sup> By Dr. Joh. Bokai, O. O. Professor of Diseases of Children and Physician to the Pesth Children's Hospital. (Jahrbuch für Kinderheilkunde. N. F. Band x., Heft 1 and 2, August 15, 1876.)

<sup>2</sup> Vide JOURNAL, February 5, 1874.

<sup>3</sup> Jahrbuch für Kinderheilkunde, Band i., Heft iv.

situated on the side, the right side was affected proportionally to the left as eighty-six to sixty-four.

The author classifies as secondary abscesses only such as are formed by the sinking of pus from abscesses of the superficial glands of the neck, or where caries of the *vertebræ cervicales* exists; and of the one hundred and forty-four cases there were only seven such, which shows them to be rarer than generally is supposed. There was no important difference between the number of boys and girls affected. The disease was most frequent in the first year of infant life; and was comparatively infrequent after the third year. With regard to the time of year when most prevalent, it can be said that the seasons of the year most favorable to inflammations of the pharynx are also conducive to the production of this disease. Of greater importance, as a cause, are those constitutional diseases which predispose to inflammations of the lymphatic glands in general; and in the first rank is scrofula. The influence of local affections of the mouth and pharynx upon the neighboring lymphatic glands must be taken into consideration. There is no evidence that dentition plays any part in the ætiology of this disease, and its frequent occurrence between the second and sixth month and the comparatively small number of these abscesses after the ninth month speak against any causal connection between the two processes.

With reference to the method of examination: whereas inspection will often fail to discover the presence of a retropharyngeal abscess, an examination with the forefinger is a sure means of diagnosis. With children under one year of age an exploration in this way is very easy; with older children it is sometimes a matter of great difficulty. In the latter cases the author is in the habit of passing the forefinger behind the molar teeth, boring it in. When the obstruction is overcome he presses the tongue down to prevent being bitten. In case of the presence of diphtheria of the pharynx, as a matter of precaution, a dilator or the handle of a spoon is employed.

The duration of time from the appearance of the first symptoms to the formation of an abscess that can be detected varies. Whereas this may take place as early as the second day, it is sometimes as long as fourteen days. With older children the symptoms are usually less violent than with young infants, and the course of the disease in infants under one year of age is generally a very rapid one.

In the symptomatology of the disease, given in a very exhaustive description, the author offers nothing new requiring notice.

The examination made in the manner recommended makes a differential diagnosis, as a rule, easy. There could be a doubt in the very beginning whether we had to do with a simple pharyngitis, but the finger would remove such doubt. Diphtheritic paralysis resembles this disease in difficult deglutition and the snuffling sound in respiration;



but the absence of the other characteristic symptoms would prevent any mistake. Hypertrophy of the tonsils can be diagnosticated by inspection, and when the finger discovers no complicating abscess on the side or median line of the pharynx the snoring during sleep is to be attributed to this. Polypi, extending backwards from the nasal cavity, and filling up, as they sometimes have been known to do, the cavity of the pharynx, can be distinguished by the absence of pain and their hard consistence and by the absence of any external tumor. Follicular or diphtheritic inflammation of the pharynx can be detected by inspection. Retropharyngeal abscess can never be mistaken for croup, if the characteristic symptoms of croup are kept in view and a digital exploration made.

With regard to the prognosis: of the one hundred and twenty-nine cases of idiopathic retropharyngeal abscesses and the seven which occurred during the course of scarlatina, seven died. Of the four cases of secondary abscess occurring in cases of spondylitis cervicalis, three ended fatally. The one case of traumatic abscess died. In these eleven fatal cases, an opening with the bistoury was made in seven; in two a spontaneous opening took place; and in two the abscess was not opened. To form an accurate prognosis the kind of retropharyngeal abscess must be taken into consideration. It can be stated, too, as a general rule, that the result will be almost surely fatal if the abscess is left to itself and is not opened. The acute form is more dangerous than the subacute or chronic. Secondary abscesses, the result of the sinking of pus from abscesses in the subcutaneous tissue of the neck, are less dangerous than those resulting from disease of the cervical vertebræ. The age of the child must be taken into consideration, the younger the child the more dangerous being the disease. The author finds no reasons for changing his views as to the treatment of this disease from those expressed in his earlier article, the all-important point being the incision of the abscess as soon as detected, as the most dangerous symptoms are thus almost certainly at once removed.

When swelling without fluctuation exists, the author is inclined to paint the soft palate and posterior wall of the pharynx with tincture of iodine or solution of the iodide of potassium, as recommended by Schmitz,<sup>1</sup> hoping thus to hasten suppuration or perhaps prevent the formation of pus, although he has never in his own experience witnessed any such good results from its use.

In operating, the author always uses a narrow-pointed bistoury protected to within a short distance of the end with sticking-plaster, and prefers this to instruments invented expressly for this operation by Stoerk<sup>2</sup> and Schmitz. The introduction of the bistoury is effected in

<sup>1</sup> Vide JOURNAL, February 5, 1874, page 143.

<sup>2</sup> Handbuch der allgemeinen und speciellen Chirurgie, Von Pitha und Professor Billroth.

two ways: either by inspection by means of a spatula, or, where this is not practicable, by guiding it with the forefinger of the left hand introduced into the pharynx.

The recommendation of Schmitz to press down the epiglottis with the left forefinger at the moment of opening the abscess, in order to prevent pus from escaping into the larynx, Professor Bokai does not believe accomplishes the object for which it is intended, inasmuch as the pus does not all escape at the instant of the operation, but continues to flow for a long time.

The two accidents to guard against, connected with the operation, are a dangerous hæmorrhage and asphyxia from the escape of the pus into the air passages. A mere bleeding from the incision is easily checked by injections of cold water. The anatomical relations of the large vessels must of course be kept in view. From the second cause the author has fortunately never had a fatal result.

The prominent facts connected with the statistics of these cases are given in a tabular form, convenient for consultation, and at the end are reported in full ten of the most interesting cases.

*On Infantile Paralysis.*<sup>1</sup>—The author's views are embraced in the following conclusions to which his learned treatise has led him:—

(1.) Infantile paralysis has its seat, without doubt, in the spine. At the beginning the process is one of irritation, which is followed by one of an opposite nature, and as a result we have atrophy with breaking down and disappearance of the large motor cells in the anterior cornua.

(2.) While the first stage, that of irritation, is one of short duration and accompanied by but few symptoms, the following one of degeneration and atrophy lasts for months and years, and remains sometimes permanent and stationary during the patient's whole life. The symptoms peculiar to this stage are many and various, the most prominent and constant ones being those dependent upon atrophy and degeneration of the muscles.

(3.) Of these latter the most constant are contractions which have for their cause several pathological conditions, the most frequent one being the contractility of the antagonistic muscles which have remained unaffected or have regained their power of contracting.

(4.) Infantile paralysis presents a conglomeration of symptoms which makes it a disease *sui generis*, and distinct from all other forms of paralysis.

(5.) The so-called paralysis temporanea of Kennedy is not another disease than the one in question, but a form of this disease which runs a favorable and rapid course, not necessarily being followed by atrophy and fatty degeneration of the muscles.

<sup>1</sup> Vizioli. Il Raccoglitore medico, No. 9, 1876. Allg. medicinische Central-Zeitung, July 5, 1876.

(6.) The prognosis depends upon the severity of the disease, there being cases which terminate in spontaneous recovery, and others which remain stationary and never improve. Between these two forms lie many that can be cured by treatment.

(7.) The treatment in the first stage must be directed against the process of irritation. We must consequently have resort to antiphlogistics and such remedies as possess the power of contracting the calibre of the blood vessels, in order to diminish the flow of blood, and thus check the tending to degenerative processes. The best means for this purpose is the constant stream, applying the anode to the vertebræ and the cathode to the affected limbs. The treatment of the second degenerative period is a long and difficult one. By means of the electric stream it can be determined whether we must employ active and stimulating treatment or the contrary. If the induction stream causes no nerve-muscular reaction, this shows that the motor power of the spine is lost, and that atrophy and fatty degeneration of the muscles are beginning. At this stage we must have recourse to preparations of strychnia, the use of baths, cold-water donches, electricity, active and passive gymnastics, the most strengthening food, etc.

(8.) Hope of recovery must not be abandoned, and the physician must frequently change his remedies, and persevere in his treatment months and sometimes years. In this way he will rarely fail to meet with a favorable result even if the success be only a partial one.

*Peritonitis in Children.*<sup>1</sup>—In this disease, which is often extremely difficult of diagnosis, the author calls attention to two symptoms which are quite characteristic of the disease. In the first place there is the impossibility of lying with the legs stretched out, the patient having both thighs flexed upon the abdomen, and, consequently, he cannot be made to stand on his feet. The second important aid to diagnosis is the respiration. Even before a peritoneal exudation is demonstrable, sharp pains, which arise in both hypochondria, make inspiration very difficult, and should there coexist a bronchial catarrh, coughing is impossible. Expiration goes on, unimpeded. Such children can cry quite loud; but the pauses between the cries are long, being filled out by a series of very short inspiratory acts. This difference between inspiration and expiration during crying is the most important diagnostic symptom in the peritonitis of children, and is never absent.

The prognosis is less unfavorable than with adults. Although a subsequent cheesy infiltration of the lungs is to be feared, yet this process with young children has not the same serious significance as with older persons. In such cases, when the child receives proper care and treatment, cicatrization or calcification of the infiltration often takes place.

<sup>1</sup> Memorabilien, 6 Heft, S. Kersch, Prague, 1876; and Allg. medicinische Central-Zeitung, September 9, 1876.

In forming the prognosis the author's many years' experience has demonstrated that the sex of the patient must be taken into consideration, as with little girls sterility remains behind notwithstanding they may otherwise be restored to perfect health. The author has observed ten such cases between five and fourteen years of age.

The author's treatment consists in quinine, as many grains as the child is years old, once or twice daily, and the application of leeches followed by cold-water dressings which must be rapidly changed, applying over these dressings a piece of gutta-percha paper to protect the bedclothes. Morphine is also employed, symptomatically.

There sometimes takes place so large an exudation in the abdominal cavity as to require the use of the trocar; and one must not wait too long before employing this instrument, as by the long continuation of such a collection of fluid œdema of the lower extremities is apt to ensue, and by pressure on the large abdominal vessels a new exudation is excited. In these cases, too, the strongest diaphoretics or diuretics are powerless until the larger portion of the fluid has been evacuated. The author recommends that the wound be left open for a time, otherwise a second puncture is often necessary. Several punctures are sometimes required, and recovery, notwithstanding, takes place.

*Bouchut on Multiple Abscesses of the Cellular Tissue in Infants.*—M. Bouchut<sup>1</sup> attributes as the cause of this rare affection three diatheses: the scrofulous, the syphilitic, and the puerperal. In the puerperal form nodules develop under the skin, which then reddens and becomes thinner and painful. The nodules, at first hard, rapidly soften and fluctuate, and finally, unless previously incised, burst. Suppuration takes place much more quickly in this than in the other two forms. In the syphilitic variety usually the child has already been cured of the commoner manifestations of syphilis, and small, hard, slightly movable nodules (gummata) then appear in the subcutaneous tissue. They pass through the same stages as those of the preceding form, but do not burst for perhaps two or three months. After the discharge of the pus, which is small in quantity and of a yellow, sanious character, the opening remains livid and fistulous for some time prior to closing. If the abscess be situated over a bone, the periosteum is destroyed and the bone exfoliates. The scrofulous form generally occurs between the eighth and the fifteenth year. It is very rarely seen in the first year of life. It begins with very small subcutaneous nodules scattered over the trunk and limbs, and less commonly over the face. After having remained stationary for some time they increase in volume, soften, fluctuate, and break, with a discharge of thick, greenish pus. A fistula results, and this with its reddish, livid orifice remains open for several months and leaves a depressed scar which for a long time is colored.

<sup>1</sup> Gazette des Hôpitaux, August 1, 1876; London Medical Record, November 15, 1876.

The treatment of the puerperal form consists in the removal of the child from the mother, the application of linseed poultices, and, as soon as fluctuation is felt, the incision of the lumps. The syphilitic and scrofulous forms should be treated respectively with iodide of potassium, cod-liver oil, etc., and while the nodules are hard, iodide of lead ointment should be applied. Four cases are reported.

(To be concluded.)

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

NOVEMBER 20, 1876. *Acute Cystitis*. — DR. FIFIELD read a paper on this subject. (Reserved for publication.)

DR. RICHARDSON asked if in any of the cases reported the attack came on suddenly or was ushered in with a chill.

DR. FIFIELD answered that in one case there was a distinct chill; in another, following pregnancy, the attack came on very suddenly.

DR. KNIGHT inquired of Dr. Fifield if he had noticed any ill results from the use of copaiba; and also if he thought it unnecessary to keep the urine alkaline.

DR. FIFIELD said he had seen an eruption appear during the use of copaiba, but no other ill effects. As regards the use of alkalies, he thought them unnecessary, as in his own practice he had found the administration of iron as efficacious as potash.

DR. BOLLES asked if there was any distinct evidence of acute cystitis arising from changes in the urine.

DR. FIFIELD said he knew of no such case.

DR. FITZ inquired as to whether, in the cases reported, an irritable bladder existed after the cystitis was relieved, saying that he thought a recurrence of the disease usually took place in such instances.

DR. FIFIELD answered that he had noticed no such condition in any of his cases.

DR. ARNOLD asked if the constitutional symptoms were severe, adding that in the cases seen by him the constitutional disturbance was out of proportion to the local symptoms.

DR. FIFIELD replied that they were not severe.

*Jointed Ham Splint*. — DR. BOLLES showed a jointed ham splint with a hinge which could be set at any angle, and fastened with great strength, yet so compact that it could be easily worn inside the ordinary clothes. It was applied to the leg by means of straps and buckles passed over "Crimean" splints laid upon the front of the limb to prevent constriction of the vessels.

*Post-Mortem Appearance of the Skin after Subcutaneous Injection of Brandy before Death*. — DR. BOLLES showed a colored drawing of the post-mortem appearances following the subcutaneous injection of thirty minim doses of

brandy about an hour before death. There was a very light yellow spot, about half an inch across, just above each puncture, much whiter than the rest of the skin. This was surrounded by a red areola, an inch and a half or more in diameter, of irregular shape, rather pale at its outer border, which was, however, distinct, of a much deeper color within, and bounded next the yellow spot by an intense red line.

The appearance suggested the explanation that the alcohol had contracted the vessels and so driven the blood from the middle spot and accumulated it in the areola surrounding it.

DR. DRAPER said he had often given subcutaneous injections of brandy, but had never observed so marked changes in the skin as described by Dr. Bolles.

DR. FORSTER remarked that he had given whisky subcutaneously, and had noticed a dark discoloration of the skin surrounding the point of puncture.

*Paralysis from Over-Exertion.* — DR. INCHES mentioned the case of a girl, eleven years old, a resident of Philadelphia, who, after undue exertion in walking about through the Exhibition buildings, suffered a paralysis of the lower limbs as far as the knees, and of the arms up to the elbows. The child first complained of feeling weak and tired, and finally had to be carried from the grounds.

DR. PEPPER, under whose care the child was placed, said he had seen many similar cases arising from over-exertion, and had found that they did well and usually recovered in about a week. He had treated them by derivatives and ergot internally, though he thought they would do well even without any medicine. This patient recovered in ten days.

*Retained Placenta after Miscarriage.* — DR. RICHARDSON reported the case of a woman, twenty-eight years old, pregnant for the fourth time, who miscarried for the fourth time in August last. Two weeks after, her catamenia appeared and continued, with now and then a few days of intermission, until ten days ago, when he removed a shriveled placenta which when rolled upon itself was about the size of a small apple.

DR. WATERMAN remarked that he had once removed a placenta six weeks after miscarriage.

DR. FITZ asked if any portion of the placenta protruded.

DR. RICHARDSON replied that it did not, but on examination with the speculum the os was found to be very patulous, and high up in the cervix a small portion of the placenta could be seen.

*Scarlatina or Belladonna?* — DR. BOLLES reported the following case: A girl aged seven years was taken sick with well-marked scarlatina November 4th, three days after exposure, and having the disease in a perfectly typical manner made a good recovery. She had a little brother, a nursing baby of four and a half months, rather feeble and subject to a cough, the sequel of pertussis last summer. He was with her on the 4th, after which he was isolated as well as could be in the same house, and, with the rest of the family, was allowed belladonna night and morning, taking four drops of a solution (equivalent to one twelfth of a grain, or less, of the root), a quantity which it was afterwards ascertained the mother estimated, sometimes giving six and even eight drops.

On the 8th, after taking six doses of the belladonna, one of which was an

hour or two before, a bright eruption suddenly appeared upon the face, covering the forehead, cheeks and chin, excepting spaces around the eyes and mouth, which were white. He was at once placed in a cold pack and in about fifteen minutes more the eruption had disappeared. Thoroughly frightened now, the mother applied hot water to the chest as vigorously as she had just done the cold, following it up with a poultice of hot hops and vinegar until the scalding and irritation produced a decided erythema of the throat. About two hours after the first appearance of the eruption on the face the patient was seen by Dr. Bolles. He was then lying in his mother's arms, rather restless and pale, but looked bright and free from pain; respiration noisy, voice clear. The tonsils were swollen and the pillars of the fauces reddened. Tongue slightly coated, papillæ not enlarged. Pupils normal. Temperature 102°. Belladonna omitted.

There was no change during the next day or in the forenoon of that following, and not considering the case one of scarlatina, the belladonna was resumed, one eighth of a grain being given.

An hour and a quarter after giving the medicine the same redness of the face reappeared. It was an erythema of very intense color and distinct margins, covering the face and front of the neck, excepting rings around the eyes and mouth which were pale and white. The scald of the chest was as before, having remained unchanged, a little paler perhaps. The cough, breathing, and the appearance of the throat were the same. The pupils were not dilated, skin not hot. Temperature 100½°. There had been no chill, vomiting, convulsion, nor any other symptom of fever. The patient had, during the autumn more or less diarrhœa but the bowels were now in good order.

The redness of the face disappeared again in half an hour and never came back; that of the chest followed the usual course of a "burn" and faded out in a day or two more, and he did not present any other symptoms of scarlet fever before the fourteenth, at which time the child passed into the hands of a homœopathic practitioner. There was not the slightest appearance of the "strawberry tongue," nor were his general symptoms other than those of a heavy cold which he took about a week before his sister became sick and which seemed to grow rather worse. There were a few râles in both lungs.

Dr. Bolles added that Bartholow said<sup>1</sup> that the erythema of belladonna wants the punctated character of that of scarlatina, and is associated with redness and dryness of the fauces. In the case just reported the erythema was very fairly punctated, and the fauces though reddened were not dry; yet if it was not produced by the medicine, the coincidence was certainly misleading.

DECEMBER 4, 1876. *Heat-Stroke.* — DR. FISHER reported a case of delusion of a week's duration, induced by heat-stroke. (Reserved for publication.)

DR. WEBBER inquired if headache were complained of.

DR. FISHER said there was no complaint, properly, of headache, but rather of a feeling of tightness and distress about the head.

DR. WEBBER thought that headache was an early symptom in heat-stroke, and that the feeling of tightness and distress came on later.

<sup>1</sup> Bartholow's *Materia Medica*, page 282.

DR. JEFFRIES referred to a slight attack of heat-stroke which he suffered while in Paris, in 1859, after riding some distance in the sun, on top of an omnibus. There seemed to be at times a condition of semi-unconsciousness, a sensation of losing himself, which would be relieved for a while by the use of stimulants. He did not recover the feeling of complete control until the middle of the next day. The stimulants exerted no intoxicating effect. He had no headache or any after-results excepting a feeling of languor, and since then a feeling of discomfort and nausea when walking in the sun on a hot day.

DR. FISHER mentioned a case of acute mania arising from heat-stroke, so severe as to necessitate the removal of the patient to an asylum where he remained some weeks.

*Erythema arising from the Use of Belladonna.* — DR. C. P. PUTNAM referred to the case reported at the last meeting by Dr. Bolles, and said he had often seen an erythema appear on the faces and chests of babies, lasting about two hours, after doses of  $\frac{1}{32}$  of a grain of extract of belladonna given for whooping-cough. He had never seen any severe poisoning from belladonna, but on the contrary, thought that young persons, as a general thing, were less susceptible to the drug than adults, or at any rate not more so. He had frequently given suppositories containing half a grain of extract of belladonna to children from six to ten years old, for enuresis, without observing any poisonous effects; while they had also taken twice daily, without causing any other signs of poisoning than a slight dryness of the mouth, tincture of belladonna up to thirteen drops. He asked if serious poisoning had been observed in young people.

DR. WILLIAMS said he had seen young children sensibly affected by one drop of a solution of atropia (grs. viii to water  $\text{3i}$ ) introduced into the eye.

DR. FISHER mentioned the case of an adult in whom one or two homœopathic pellets of atropia had brought on dryness of the throat and dilatation of the pupils.

DR. WEBBER referred to the case of a lady forty years of age, who took one sixth of a grain of the extract of belladonna three times a day, causing, after a few days, an eruption to appear on the cheeks and throat. The latter was constant, the former occurred only when the patient was excited. In contrast to this, a case in New York was referred to where the patient, who was suffering from some spasmodic affection, by gradually though rapidly increasing the dose, came to take half a grain of the sulphate of atropine several times a day.

DECEMBER 18, 1876. *Sudden Death from Embolism.* — DR. FITZ read a paper on this subject, which was published in the JOURNAL of January 25th.

DR. J. T. G. NICHOLS mentioned two cases of pleurisy, one in a woman at the age of sixty, the other in a man at the age of forty. In the first case, two weeks after the commencement of the disease, phlebitis, affecting one of the saphenous veins, came on, and a week later the patient fell back in bed and died instantly. In the second case there was also phlebitis as a complication, but the patient recovered. Dr. Nichols asked if sudden death from embolism had been known to occur in phlebitis accompanying pneumonia.

DR. FITZ said he had never met with a case, but thought it might occur as well in pneumonia as in pleurisy.



DR. ELLIS questioned whether in pleurisy sudden death did not frequently result from the large effusion, and said that a change in the position of the heart might explain theoretically how sudden death might arise from the interference with the circulation thereby produced. Dr. Ellis thought that in such cases the effusion would be found on the left side, and asked if such had been noticed by others to be the fact.

DR. KNIGHT remarked that he had somewhere seen it stated that sudden death in pleurisy always arose when the effusion was on the left side.

DR. CURTIS said that Trousseau laid particular stress on the danger arising from large effusion in the left pleural cavity.

DR. NICHOLS thought that this could not have been the cause of death in the case reported by him, as the effusion was not sufficient to cause any displacement of the heart.

DR. MINOT mentioned the following case which he had recently seen in consultation: A woman, one week after confinement, was attacked with sudden dyspnoea and severe pain in the right side of the chest, attended with a feeble, almost inappreciable pulse. She had had no disease of the lower extremities, no phlebitis. The patient recovered, the diagnosis in the case being probably an embolus of the smaller branches of the pulmonary artery.

DR. CUTLER spoke of a case he had seen two years ago. The patient had suffered for several years from necrosis of the tibia, and dying suddenly, after frequent attacks of dyspnoea and præcordial distress, the diagnosis of embolism which he had made was confirmed at the autopsy, as both lungs were found affected thereby.

DR. DRIVER reported the two following cases: The first was that of a large, obese, somewhat debilitated patient, suffering from varicose ulcer of the leg. Dying suddenly, a plugging of both pulmonary arteries even to the fourth branches was found. The second case was that of a pregnant woman, who was anæmic, the countenance being of an ashy appearance; she had a rapid pulse and a choking, spasmodic cough, with dyspnoea. There was phlebitis affecting the right leg. A loud, sonorous, blowing murmur was heard over the right chest, distinct even to the base of the lung, but diminishing towards the heart. The phlebitis increased in the right leg, and soon affected the left also. She went through her confinement without any untoward results but the murmur continues up to the present time.

*Removal of a Uterine Polypus.*—DR. MINOT showed a uterine polypus about the size of a hen's egg, which he had recently removed. The patient, five months after an easy confinement, began to suffer from hæmorrhage and bearing-down pains, and on vaginal examination this mass was found protruding from the os. The special interest in the case was with reference to the differential diagnosis between polypus and an inverted uterus.

DR. BAKER referred to two cases he had seen in New York: one in which the pedicle was held so tightly by the os that it was impossible to pass a fine probe; in the other the passing of the sound settled the diagnosis. In the first case the nature of the tumor was diagnosed by the hand in the rectum.

DR. ELLIS said that both he and Dr. Tarbell had found considerable dif-

ficulty in Dr. Minot's case, in introducing the sound two days before the operation, as it seemed to enter a cul-de-sac which was probably the pedicle, though Dr. Minot by slipping the sound around the pedicle passed it quite easily.

DR. TARBELL said that the pedicle in Dr. Minot's case was not so large as it seemed to be before the operation. The diagnosis in this case was firmly established by passing a catheter into the bladder and the forefinger of the other hand into the rectum, when the uterine mass was found above that of the tumor.

DR. MINOT stated that there had been no hæmorrhage at the time of the operation nor since.

DR. BAKER thought that the removal of uterine polypi was not usually attended with much hæmorrhage, yet in one case which he saw, although the polypus was small, the bleeding was excessive.

DR. TARBELL asked if the hæmorrhage came from the polypus or the inner surface of the uterus.

DR. MINOT said he thought it might arise from both, as the polypus is covered with minute vessels, and it is well known that a foreign body in the uterus will excite hæmorrhage from the same.

DR. CUTLER suggested the dilatation of the urethra so as to allow the passage of the finger and, with another finger in the rectum, the practice of conjoined manipulation.

*Subacute Cystitis.* — DR. DRAPER reported the following case of subacute cystitis complicating the puerperal state: —

The patient was an American girl, twenty years old, a primipara. She lived in Hartford, and came to Boston to be confined in some lying-in hospital. She was unsuccessful in her search for the lying-in institution, and, fatigued and sick, she went to a boarding-house where her child was born after a labor of eight hours, without medical assistance. The placenta was not delivered until two hours after the labor terminated, and in the mean while the patient flowed profusely. The patient stated that she did not pass her urine for four days after her labor, and that she then sought medical aid and was relieved by the catheter. There was pain in the region of the bladder which was not relieved by the catheterization.

When her baby was nine days old, the patient entered the City Hospital with an axillary temperature of 100° and a pulse at 96, a poor appetite, pain over the pubes, and dysuria. The catheter drew off a quantity of ammoniacal, offensive cloudy urine, with a heavy deposit of ropy mucus. There was no hæmaturia.

The subsequent course of the case was progressive toward recovery, except on the third day when a severe exacerbation of the symptoms occurred in consequence of the patient's imprudence in leaving her bed without permission. At this time the lochial discharge was suspended, a chill occurred, the vesical pain and dysuria were increased, and the temperature reached 103.8°, the pulse 120. During the succeeding twenty days of the patient's stay in the hospital convalescence was satisfactory, the bladder symptoms gradually subsiding, and the urine resuming its normal character.

The treatment was wholly local. The catheter was used twice daily, and the bladder was then thoroughly washed out with warm water, and after the fourteenth day with a solution of carbolic acid in warm water, 3 iss to Oj.

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### CITY REGISTRATION.<sup>1</sup>

THE city registrar's detailed annual report appeared this year several months later than usual. The opening remarks of the report, after an allusion to "the delay which has been thought to have occurred in its appearance," contain the following statements: "Prior to the existence of the Board of Health, it appeared to be expected of the city registrar that he would offer such suggestions concerning the health of the city as he might deem worthy of consideration, on the ground, doubtless, that there was no other officer in possession of the facts that would enable him to perform that very desirable service. The establishment of the Board of Health, however, to which is properly confided all that relates to the sanitary affairs of the city, and the publication in their reports of the mortality and statistics of the city seemed to render a duplicate report by the city registrar superfluous. Except in stating the number of deaths and designating the localities where they have occurred, it is far from being evident that the ordinary mortality reports are of any practical benefit, so far as the sanitary service of the city is concerned. . . . The most that can be claimed for this and similar mortality documents is, that they contain statistics of importance collected for preservation. To that extent they subserve a useful purpose. But as the facts exhibited in one year are not essentially different from those that are presented in every other year, it is easy to see that the circle of knowledge is not enlarged to any appreciable extent by the frequent repetitions. So far as the statistics contained in mortality reports are capable of being applied to sanitary matters, the report of one year is equally applicable to any other year." The registrar concludes his preliminary remarks by saying that "the state registration report annually contains the condensed returns from every town in the commonwealth, which are always available for every necessary purpose. A consideration of this circumstance, as well as of the others I have named, led me to hesitate in the preparation of this report."

It is somewhat surprising to find that in such a quarter so low an estimate is placed upon the usefulness of the services which may accrue from registration to sanitation. Without entering upon any discussion of the question now raised by the city registrar, it may be said that an examination of his previous reports would show that he has not always considered his contributions to the knowledge of our sanitary needs so entirely devoid of significance as he now confesses them to be. On various occasions, as in 1873 when he called attention to a "remarkable change in the sanitary condition of Boston," which, in his judgment, was not accounted for by the prevalence of epidemics, the city registrar has thought it his duty to sound a cry of alarm. His statements

<sup>1</sup> *Annual Report of the City Registrar of the Births, Marriages, and Deaths, in the City of Boston, for the year 1875.* City Document, No. 84.

of disease, on such occasions, accompanied by speculations upon supposed morbid causes and their prevention by sanitary agencies, have been based upon the statistical evidence contained in his yearly report. Now, however, for reasons which are not apparent in the present report, the city registrar seems to take a very discouraged view of the usefulness of his past participation in the sanitary administration of the city.

It certainly does seem rather superfluous that detailed statements of our vital statistics should emanate every year from three distinct sources, namely, from the city Board of Health, from the secretary of the commonwealth, and from the city registrar. The difficulty of deciding which of the three yearly reports could with least loss be omitted is, however, diminished, in consequence of the entire frankness with which the registrar admits his disbelief of the usefulness of such statistical statements as he has hitherto felt called upon to issue every year. His own lack of faith in the utility of registration, as related to sanitation, goes far to explain the comparative fruitlessness of his own collaboration in the sanitary affairs of the city. Dr. Draper, whose successful exertions in the fields of sanitation and of registration are well known to our readers, and whose opinions on such subjects are eminently entitled to consideration, remarks that "the value of any compilation of vital statistics depends greatly on the zeal and fitness of the registration officer. The data which he collects and preserves are something more than barren numbers. To a zealous and expert official, in love with his duties, they represent an important character. He sees the variety of generalizations which may be based upon them; he appreciates the important lessons they may teach. Hence he realizes the necessity of a constant purpose to make the most of the facts and figures which are returned to him, and of unceasing vigilance to secure the utmost possible accuracy in the details."<sup>1</sup> To show how inadequate is the registrar's conception of the importance of registration in its relations to sanitary science and sanitation, it is necessary only to recall the achievements of Farr, Simon, and Buchanan; of Bertillon, Beaugrand, and Brochard; of d'Espine; of Snow, Russell, Toner, and Jarvis. Under the management of these distinguished physicians, this field of scientific research has been far from sterile.

Not only as regards the utility of vital statistics is the registrar somewhat skeptical; he appears also to have little faith in sanitation. In one passage of his report, after speaking of the average death-rate of Boston for the last twenty years, he goes on to say that, "there does not appear to be any valid reason why a lower one should be expected during the next twenty years, whatever may be the measures adopted and carried out for the promotion of the public health." (Page 41.) In another passage, however, he says that an examination of certain of his tables will prove interesting, "as showing especially where the largest portion of the mortality from preventable causes occurred." (Page 25.) Now if "mortality from preventable causes" does occur, as the registrar admits, then that portion of our mortality can be prevented, and there does appear to be a valid reason why a lower death-rate should be expected during the next twenty years, provided suitable measures of prevention are devised and carried out. Fortunately, in the pursuance of this end,

<sup>1</sup> See Second Annual Report of the City of Boston, 1874, page 88.

the registrar's reports will not be the only available sources of information concerning our sanitary needs.

Turning to the body of the report, the portion most interesting to physicians is naturally that which relates to mortality. By comparing the tables exhibiting the paternity of the born and of the dead in 1875, we find that of all decedents under one ("unknown" deducted) 31.4 per cent., and of all decedents under five only 28.5 per cent., were born of American fathers. On the other hand the figures contained in Table I. shows that as many as 34.9 per cent. of all the children born in 1875 ("unknown" deducted) had American fathers. These facts show that the native element of our population contributes in larger proportion to the births than to the deaths which take place. While upon this subject we would call attention to the fact that Table VII. is wrongly headed. As shown in the text, it does not exhibit the "nativity of decedents under twenty years of age," but their *parentage*. Another criticism must be made concerning the arrangement of the facts tabulated in Tables VII. and VIII. Both of these tables are incomplete, one showing the parentages of decedents under twenty, while the other shows the nativities of decedents over twenty. No figures or tables, however, are given to show the parentage or the nativity of decedents at other ages, so that it is impossible for us to learn the total number of decedents of native or foreign birth or parentage. Information on these points would have been more useful than some of the statements for which room was found in the report, as that "the daily average of the deaths during the year was 25.54;" or that "one experienced groom who had been four times widowed, chose as his fifth bride one who had never before appeared in the matrimonial market."

From the table showing the causes of death, we learn that croup and diphtheria caused six hundred and thirty-four deaths, making seven per cent. of all deaths. The average percentage of deaths by these diseases from 1865 to 1874 was but 2.48. Deaths by scarlatina amounted to five hundred and fifty-five, or 6.20 per cent. of all deaths, the average decennial percentage being 4.33. Wards four, five, eight, fourteen, and sixteen, containing together 17.7 per cent. of the population of the city, furnished only 5.59 per cent. of the victims of this disease.

The statements relating to consumption appear to demand some comment, on account of the methods of elucidation adopted by the city registrar, and on account of the erroneous conclusions thereby reached by him. A table and figures are given which are intended to show the degrees of prevalence of this disease among the various nationalities, native and foreign, which compose our population; other figures relate to the distribution of consumption throughout the city, divided into wards. The facts exhibited in these tables are interesting and valuable. So defective, however, is the method used in their interpretation, as to obscure or even alter instead of explaining their real significance. The error repeatedly committed in the interpretation of these statistical facts consists in attempts to determine the frequency of the disease under consideration by means of ratios involving two variable factors. Thus, with regard to the distribution of consumption by wards, a table is given showing the *ratio of deaths by this disease to total deaths* occurring in each ward. This ratio, how-

ever, does not represent the real degree to which consumption has prevailed, inasmuch as the total mortality by all causes is quite as liable to vary as the mortality by the particular disease whose frequency it is proposed to ascertain. Supposing, for instance, two wards, in one of which the total mortality and the mortality by consumption were twice as great as in the other, the ratio adopted by the city registrar would be the same in both cases. Evidently, however, it would be a mistake to infer that consumption prevailed equally in both of these wards, for the prevalence is really twice as great in one as in the other. The correct way to estimate the prevalence of disease consists in the use of *rates*, expressing the proportion of deaths to population. An example will show what different results the two methods give. The registrar says that "in wards eight, nine, ten, and eleven, embracing territories contiguous to each other, and possessing similar topographical features, and occupied largely by a native population, the ratio was one in 6.519." As the mean ratio throughout the city was one death by consumption in 6.601 deaths by all causes, it might be erroneously inferred that the prevalence of consumption in these four wards was very nearly as great as throughout the city. But if, availing ourselves of the recent census, we calculate the rates of these wards, we find that while the mean consumption rate of Boston in 1875 was 3.96 per one thousand living, the rate in the four wards "occupied largely by a native population" was only 2.85 per one thousand, and that in ward nine the rate stood as low as 2.32. In ward two, on the other hand, which is inhabited largely by a foreign population, the consumption rate was as high as 5.28 per one thousand living; yet, in this ward, the ratio of deaths by consumption to total deaths was one in 6.349, which differs but slightly from the ratio of the four wards alluded to above.

So also with regard to the liability to consumption which characterizes each of the nationalities composing our population, the use of this defective method only leads to erroneous conclusions. The registrar tries to throw doubt upon the correctness of an assertion recently made to the effect that our Irish inhabitants show a marked proclivity to consumption. His elaborate attempts at demonstration fail, however, to establish his position, the vicious ratio of deaths by consumption to total deaths being the only means of elucidation used in support of his views. If, taking the data relating to population as the basis of our calculations, we compare together our Irish inhabitants and the other foreigners, we find that while the Irish, constituting 59.6 per cent. of our foreign-born population, furnish 73.8 per cent. of all the deaths by consumption occurring among foreigners, the remaining portion of our foreign population, amounting to 40.3 per cent., furnish but 26.1 per cent. of all the foreign deaths by the disease under consideration. In the last report of the city Board of Health, we find additional data, not given by the city registrar, which are quite significant. A table giving the parentage of all decedents by consumption shows that of all such decedents as were of foreign parentage as many as 80.7 were of Irish parentage. The ratio used by the registrar should be employed only for want of better methods, and without much reliance being placed upon the results so obtained.

The statistical tables and statements, which constitute the greater part of

this report, are interesting and valuable. They appear more satisfactory than usual, the discoverable errors being few and unimportant. Many of the comments and reflections added by the registrar, on the other hand, appear superfluous and at times even somewhat ill judged. It would perhaps be as well if he were to confine his exertions to collecting and tabulating the statistical facts recorded in his office, leaving to others, suitably qualified by virtue of medical education and experience, the task of interpreting their significance and of deducing appropriate measures of sanitation.

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## STATE REGISTRATION.

DR. F. W. DRAPER'S editorial remarks in the Thirty-Fourth Annual Report relating to the Births, Marriages, and Deaths occurring in Massachusetts during the Year 1875 add another to the series of valuable contributions to sanitary literature for which we are already so much indebted to him.

The year, on the whole, has been unfavorable to the public health. With 1635 less registered births and 1901 less registered marriages than in 1874, there have been 3091 more registered deaths; and the excess of births over deaths, 9018, was 4726 less than in 1874. The depression in the labor market thus shows directly in a diminished ability to meet the responsibilities of married life and to provide the necessities of existence, food, clothing, and protection from the weather, which probably do more to prevent fatal disease than absence of filth. The so-called "filth diseases" and the contagious affections claim the largest part of the excessive mortality, and of these scarlet fever, diphtheria, and croup stand at the head.

The experience of the year is exceedingly suggestive, and calls to mind Dr. Graves's famous advice during the "famine fever" in Dublin. Efforts were making to cleanse the city by a direct tax on the people, but he wisely advised that the money should be spent in procuring abundant and nutritious food, and the result proved his sagacity.

There has been so much loose statement of late in regard to the degeneracy of the American stock, and definitions of the position of women in modern society which would have done credit to Catherine of Russia or the first Napoleon have been so numerous, that Dr. Draper's remarks on this point are particularly interesting. He says: "Even if the fact were demonstrated, as probably it would be, that the Anglo-Saxon mother is, in this generation, less fertile than her Celtic neighbor, the problem would be only half solved, so far as a permanent effect upon the growth of population is concerned. For the birth-rate of a people has its counterpart in the death-rate, and the community that shows a low death-rate with a low birth-rate is certainly not worse than a community with a high death-rate and a high birth-rate." He quotes Dr. Edward Jarvis, too, as saying that "there is not only no ground for the theory of the limited growth of the American and of the unlimited growth of the foreign element in the population of the United States, but, on the contrary, the natural increase is at a lower rate in the foreign than in the American families."

The average annual rate of increase in the population of the State during the past five years was 2.538 per cent. ; for the previous five years it was 2.838. The average rates of increase by immigration for the above-mentioned quinquennial periods were respectively 1.858 and 2.048 per cent.

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### THAMES MUD AND BUTTER.

AN article that has recently appeared extensively in the papers of this country as well as of England has led the public to believe that the manufacture of butter from the fatty matter contained in Thames mud was carried on and constituted a systematic and profitable industry. By enveloping balls of cork with masses of matted hair and woody fibre and allowing them to float in the water the fat was said to be collected in balls, which floated up and down the river until they were left by the receding tide upon the bank. *The Sanitary Record* has been led to investigate the alleged Thames butter industry, and thus states the results of its investigation:—

“On visiting the place indicated, we found four men, provided with long poles and nets affixed to the ends of them, engaged in collecting portions of the materials floating on the water at the outlet of the North Metropolitan Sewage Works. The men were in boats, moored so as to lie across a series of channels through which the sewage passes into the river, and we were informed that the time of collecting is limited to about an hour and a half during the flow of the tide. The materials as collected were stored in the boats, and they presented a most uninviting appearance, consisting of a great variety of articles, such as matted hair, bits of wood, pieces of matches and straw, tarry matters, and a fair sprinkling of particles of fat. After each skimming operation the boats with their contents are taken to small barges, where there are appliances for extracting and purifying the fat. We obtained samples of the materials from the men, and afterwards operated upon them to extract the fat, with a view to determine how far it was practicable to purify the fat so as to render it fit for use in the manufacture of butter as alleged. We subjected it to various purifying processes, but completely failed in rendering the fat bright and free from offensive and disgusting odor, and we can have no hesitation in assuring the public that there need not be the least apprehension of their breakfast table being supplied with ‘best Brittany’ manufactured from fat recovered from Thames mud. That the refuse fat from the millions of kitchens in London may in part be recovered and utilized is beyond a question of doubt; but it is equally certain that the fat so recovered can only be purified to such an extent as to fit it for use in the manufacture of the most common kinds of soap and dip candles.

“We obtained a sample of the balls referred to in the article of which we have spoken, and, as stated, they have a cork or bung for their nucleus, and are left on the banks at high-water mark by the receding tide, but they contain such a small proportion of fat that they are but little sought after. These balls, which are found in the neighborhood of the sewage outlets on both sides of the river, are not white in the interior, as represented, but dark throughout, and are chiefly composed of matters other than fat.”



## MEDICAL NOTES.

— In the meeting of the Gesellschaft für Natur- und Heilkunde in Dresden (*Jahresbericht*, 1875-1876), Förster spoke of the way in which measles and scarlet fever spread. According to him, measles occurs in close, short epidemics, after which it disappears almost entirely. After from two to four years it returns again in the same way. Scarlet fever appears every five or six years epidemically, yet there never exists a period which is wholly free from it. The speaker said that the mortality of scarlet fever had gradually decreased in the last twenty-five years, and that the average death-rate was now fifteen per cent. In the last epidemic of measles Förster saw one hundred and thirty-five cases in sixty-two households; of these cases sixty-nine were school-children, and sixty-six were younger or older children. In forty-six households it was proved that a child attending school was the first to be taken sick. The stage of incubation showed itself here to be thirteen and a half to fourteen days. The infection takes place on the first or second day of the prodromal stage, which is from one to five days in duration; infection in a later stage is more rare, and could only once be authenticated on the fifth day after the eruption. The power of contagion rapidly diminishes after the eruption. The contagium is not very "taking," and the physician does not spread it.

With regard to scarlet fever, schools do not have the same significance which they do for measles. The contagium has a much greater vitality, and can also be readily spread by third persons. The latency lasts from one to eight days.



## LETTER FROM PHILADELPHIA.

Messrs. Editors. — We have in Philadelphia medical libraries of great value whose deserved fame is confined too strictly to the medical men of this city and State. Indeed, one of the richest of these collections of medical lore — that in the Pennsylvania Hospital — is next to unknown even here. That is to say, our medical men are aware of its existence, but few of them consult it. The library which is best known, best appreciated, and most used is in the College of Physicians. Its birth and growth make a most interesting story, which I will briefly tell. For some of my historical details I have to thank the readable little brochure of Dr. R. J. Dunglison on the Medical Libraries of Philadelphia; for others I am indebted to Dr. Robert Bridges, librarian of the College of Physicians.

When the college was about fifteen months old, the foundation of a library was suggested at one of its meetings in April, 1788. By-laws were then presented one of which referred to the future establishment of a library. Nothing more was then done. The records of this date contain only this reference to the suggested collection.<sup>1</sup> The college was in its infancy, numbering but few members. The city contained only forty-four thousand inhabitants, and probably possessed not more than fifty physicians. Of these, twenty-two were

<sup>1</sup> Section vii., Library.

among the founders and fellows of the college. Only one of them lived west of Fifth Street, which is now far down town. Their place of meeting was at the university building, then at the corner of Fourth and Arch streets. These founders included Dr. Jonathan Redman, — the first president of the college, — several professors of the University and College of Philadelphia, among them Drs. William Shippen, Jonathan Morgan, Benjamin Rush, Adam Kuhn, James Hutchinson, Samuel Powel Griffiths, Casper Wistar, Dr. Chovet (an able anatomist and an eccentric man), and others. After agitating the subject of the library at several meetings, a donation of books was received. But books were few, and the college had not even a book-case. The services of a librarian were not required until 1792. Even so early as 1782 the college proposed the publication of a volume of their transactions as often as a sufficiency of material warranted. Thomas Dobson offered to publish a volume "at his own risque," and in the fall of 1793 the first publication was issued. It had the valuable effect of establishing a system of exchanges, which soon supplied the college with journals and transactions. This system is still in force. In July, 1789, a committee was empowered to purchase £50 worth of foreign books. The striking difference between the sea facilities of then and now is shown by the lapse of thirteen months before the committee were able to report that the books "had arrived in sheets and were deposited at the secretary's house," where they were bound in plain calf, and whence they were afterward transferred to the college. In 1790, by a legacy of Dr. Jonathan Morgan, whose death occurred at this time, the library was enlarged by the works of Hippocrates, Galen, Morgagni, and Harvey, twelve volumes in folio, one in quarto. The works of Morgagni were doubly valuable from the fact that they had been presented to Dr. Morgan by the author, who was so pleased with Morgan, during a visit of the latter at Padua, that he claimed relationship because of a similarity in their names. Dr. Rush, Morgan's biographer, states that Morgagni inscribed upon these books, "*Affini suo medico præclarissimo Johanni Morgan donat auctor.*" Dr. Dunglison thinks Rush must have quoted from memory, for on the title-page of Volume I. Morgagni wrote: "*Viro experientissimo et humanissimo D. D. Johanni Morgan auctor;*" in Volume II. "*Viro de re anatomica bono medico Do. Dei. Johanni Morgan auctor.*" Dr. Morgan was progressive, for he was "the first man who ventured to carry a silk umbrella, and also an innovator in first introducing the practice of sending to the apothecary for all medicines wanted for the sick."

In January, 1792, having left the university, the college met in the hall of the American Philosophical Society. Books were taken only at the close of each monthly meeting. Two shillings and sixpence was the fine for keeping books more than one month; for each additional month, one dollar. The poverty of the college, the yellow fever epidemics of 1793, 1797, 1799, and other disturbing influences checked the growth of the library. The entire appropriation from 1787 to 1794 was only £60. The library depended on gifts of one or two volumes at a time. From 1805 to 1815 members evinced but little interest in the library. From 1815 to 1825 they were more active. Five English serials, one Philadelphia, and one New England periodical (*New England Medical and Surgical Journal*) were purchased for use of the members.

Nothing of interest is found in the records up to 1834. In 1835 the library committee reported: "The library is in a bad condition and going to decay." It then numbered two hundred and ninety one volumes and some unbound pamphlets, "being," says the report, "mostly the works of ancient authors; being inconveniently situated they are but little read, are in fact a mere foundation for a library." Years passed by, but few books were added. But by 1846 the library contained six hundred volumes, the principal cause of growth being the library of Dr. Ott, which had been secured by purchase. Dr. Henry Bird then gave sixty-six volumes of medical books, the largest gift the library had thus far received. Dr. George B. Wood then followed with a gift of seventeen volumes, "the first of a series of munificent donations," says Dunglison. The library now slowly but surely grew in size, and in 1857 numbered 2155 volumes. Many hundred volumes were then given by Dr. Thomas Batton, including very rare works. This gift imparted a stimulus which is still felt. During the year 1858 Dr. Robert M. Huston contributed several hundred foreign and domestic journals. In 1859 the widow of Dr. Mutter presented her husband's library. In 1863 the new building of the college, on the corner of Thirteenth and Locust streets, was declared ready for occupation, and the library was moved thither. The years 1864 and 1865 were made remarkable by the addition to the library of 4500 volumes; 2500 had been given at once by Dr. Samuel Lewis. This generous gift was arranged in a place by itself, and christened "Lewis Library."

Dr. Lewis continues to add to it yearly gifts of treasures selected in Europe by himself, and, as will be seen in the general summing up of the contents of the general library, his contributions have indeed been munificent to a rare degree. In 1865 Mr. George Ord, a philologist, offered to the library a collection of scientific and miscellaneous works of such value that the library committee decided in this instance to depart from their custom of receiving only medical works and therefore accepted it. The library in this way became possessed of "the best editions of the most eminently classic writings in French and English, many volumes of voyages and travels, and the best and probably the largest collection of English and French dictionaries in the country." This collection is the result of a half century of careful selection on the part of Mr. Ord.

In 1866 it was said that the college possessed 17,000 titles of books, and it was regarded as a better library of medical books than could be found in any similar institution in America. Dr. George B. Wood, then president of the college, expressed his conviction that more time should be allotted to practitioners for access to the library, and in order to meet expenses thus incurred he offered to give five hundred dollars yearly. The offer was accepted, and the laws so amended as to keep the library open daily between eleven A. M. and three P. M. Dr. Robert Bridges was appointed librarian (1865), and still holds the position. He is editor of the American edition of Towne's Chemistry, and holds the chair of chemistry in the Philadelphia College of Pharmacy. The general library, including the Lewis and Ord donations, now numbers 19,965 volumes, nearly a third of which were contributed by Dr. Lewis. It is very rich in American and foreign journals, a large list of which is constantly supplied in exchange for the Transactions of the College, by Dr. Lewis,

and by a fund voluntarily contributed by members who form the Journal Association and pay three dollars each per annum. The books and journals are free to all regular physicians, but none other than members are allowed to take them from the building. In the library apartments are portraits in oil of distinguished medical men. There are, of course, many rare and valuable books and pamphlets. Among them an "Essay on West India Gripes, by Dr. T. Cadwalader, printed and sold by Benjamin Franklin, 1745"; also in the Lewis library curious old books dating back to the sixteenth century. I may especially note a fine collection of the school of Salernum. Dr. Lewis in buying all the best works of the day has taken care to purchase only original editions. There is not a single reprint in his donation.

In 1862 by the subscription of twenty-three of the Fellows the college received the gift of one hundred and ninety-two volumes of *Collection des Thèses soutenues à la Faculté de Médecine de Paris, 1822 to 1846 inclusive*. This is the finest collection of these dissertations in the country.

In the library of the Pennsylvania Hospital, Philadelphia possesses another rich collection of medical and scientific works. This library was founded in 1763. It was first suggested by the gift to the hospital by Dr. John Fothergill of a single book in 1762. Even at this time the number of students attracted to the hospital by its reputation as a school for clinical medicine and surgery had become considerable.

The board of managers therefore resolved to demand a fee from these students for the privilege of visiting the wards of the house. The physicians of the hospital were then consulted as to the disposition of the sum thus raised. These gentlemen resolved to lay aside all personal claim to these funds, and proposed that they should be applied to the foundation of a medical library for the benefit of the pupils of the institution.

The library thus begun slowly grew by means of gift and purchase until arrested by the war of the Revolution. From 1774 to 1787 the only books added to the collection were Boerhaave's *Academical Lectures*, six volumes. Hill's *Old Man's Guide* (pamphlet), Johnson's *Midwifery*, Kirkland on *Puerperal Fever*, and Collins's *First Lines*. The latter book, purchased in 1780, cost the insignificant sum of £135 5s. This was when our forefathers were obliged to carry two baskets to market. In one they deposited their purchases, the other contained the money to pay for them. The £135 5s. in depreciated currency represented £1 15s. in gold, which was the actual cost of Collins's celebrated book. The library now contains over thirteen thousand volumes, for gifts and purchases have steadily increased and still increase its size. The fees from students who attend the Wednesday and Saturday clinics of the hospital are as heretofore relinquished by the medical teachers in behalf of the library, and must amount to several hundred dollars yearly, for not only do students from the two regular schools attend these clinics, but also students from the homœopathic and eclectic schools.

The fee was originally fixed at six pistoles, or \$21.60, for "perpetual attendance." Later, in 1802 and as late as 1830, the annual fee for attendance on lectures and use of library was ten dollars. At present students pay two dollars for the yearly ticket, and, unless I mistake, are not allowed access to the library.

Formerly the hospital was left in charge of "apprentices." They have since been replaced by "resident physicians," who apply for vacancies immediately after graduation. One of the apprentices acted as librarian, and according to the rules of the hospital was obliged "to bleed and cup, leech, dress wounds, and assist the senior apprentice in dressing fractures." This system of medical apprenticeship was attended by the following conditions: "The apprentice shall bring a single feather-bed, which he is to leave in the house. He is to serve five years, and must give two securities to pay the rate of £100 per annum for every day he absents himself without leave from the managers. He shall fill up his time with study. He shall look for no indulgences by leave to attend parties and places of amusement, nor be abroad in the evening. Nor will it be considered for his benefit to receive visits at home, this being foreign to the views of parents or friends in placing him, or managers in receiving him, as apprentice. He is allowed two seasons out of five, selected by the managers, to attend medical lectures, always observing to return home so soon as each shall be over."

With this interesting digression I may further say with reference to the library that it is almost unknown by the profession at large, being principally used by the officers of the house. This is to be much regretted. This library might fairly supplement that of the College of Physicians, for there is a surprising absence of duplicate copies. The two libraries massed would constitute a larger and finer collection of medical works than any other on the continent.

The Philadelphia Hospital also has a valuable library of about three thousand volumes, especially rich in ancient surgery and medicine. It was started in 1808. The apothecary of the hospital acts as librarian. As in the Pennsylvania Hospital so in this, the amount derived from students' fees is devoted to the purchase of books for the library. There has also been for several years an annual appropriation of \$250 for the same purpose. "But the library has been plundered, by vandalism to which it has been exposed, of much valuable matter."<sup>1</sup> Reliable paupers superintend the giving out of books. The librarian attends to the purchase of books and general supervision.

In the Mercantile and Philadelphia (circulating) libraries are many medical works, the former possessing one thousand volumes. In the latter are very choice old books of the sixteenth, seventeenth, and eighteenth centuries. But these two collections are not much known and are but little used.

There are, too, nuclei of libraries in various other medical institutions, but as yet do not merit special mention. It will be seen, however, that Philadelphia is very wealthy in medical works. A visit to the best of these libraries would be a source of great pleasure to medical gentlemen who may visit Philadelphia. They will meet with nothing but courtesy at the hands of the librarians. The card of any Philadelphia physician who has a claim upon the libraries would probably facilitate the entrance of a stranger. H. O.

*January 23, 1877.*

<sup>1</sup> *Agnew's Sketch.*

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JANUARY 20, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	416	20.08	27.46
Philadelphia	850,856	305	18.64	22.24
Brooklyn .	527,830	193	19.01	24.31
Chicago . .	420,000	156	19.31	20.41
Boston . .	363,940	137	19.58	23.39
Providence	103,000	44	22.21	18.34
Worcester .	52,977	16	15.71	22.00
Lowell . .	53,678	22	21.31	22.21
Cambridge .	51,572	14	14.12	20.54
Fall River .	50,370	12	12.39	22.04
Lawrence .	37,626	23	31.79	23.32
Lynn . .	33,524	7	10.86	21.37
Springfield .	32,976	4	6.31	19.69
Salem . .	26,739	15	29.17	23.57

Normal Death-Rate, 17 per 1000.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place. Dr. Green will read a paper on Thrombus of the Brain Sinuses.

BOOKS AND PAMPHLETS RECEIVED. — Emmons's Annual Medical Directory of Regular Physicians in the State of Illinois for the Year 1877. Chicago. Pp. 109.

Micro-Photographs in Histology, Normal and Pathological. No. 7. By Carl Seiler, M. D., in conjunction with J. Gibbons Hunt, M. D., and Joseph G. Richardson, M. D. Philadelphia: J. H. Coates & Co. 1876.

A Sermon on Depression. By Rev. C. Van Norden. Published by St. Albans Village Medical Association. St. Albans. 1877. Pp. 10.

Thirty-Fourth Report to the Legislature of Massachusetts, relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the Year ending December 31, 1875. Prepared under Direction of the Secretary of the Commonwealth, with Editorial Remarks, by F. W. Draper, M. D. Boston. 1877. Pp. 102.

Fourth Annual Report of the Board of Trustees and Officers of the Minnesota Hospital for Insane. St. Paul. 1877. Pp. 38.

Note on the Administration of Phosphorus. Republished from the Proceedings of the American Pharmaceutical Association for 1876. By E. R. Squibb, M. D. Philadelphia. 1877.

The Function of the Uvula and the Prominence formed by the Azygos-Uvulae Muscles. By Thomas F. Rumbold, M. D., St. Louis, Mo. (Reprinted from the St. Louis Medical and Surgical Journal, December, 1876.)

Annual Reports on Diseases of the Chest. Under the Direction of Horace Dobell, M. D., etc., assisted by Numerous and Distinguished Coadjutors in Different Parts of the World. Vol. II. Pp. 307. London: Smith, Elder, & Co., Waterloo Place. 1876.

The Medical Men of the Revolution, with a Brief History of the Medical Department of the Continental Army, containing the Names of nearly Twelve Hundred Physicians. An Address before the Alumni Association of Jefferson Medical College, March 11, 1876. By J. M. Toner, M. D., of Washington, D. C.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## ANALYSIS OF ONE HUNDRED AND NINE CASES OF RHEUMATISM TREATED WITH SALICYLIC ACID AND SALICINE, (WITH TABLES.)

BY C. W. BROWN, M. D.,

*Late House Physician at the Boston City Hospital.*

A TABULATED history is presented below of one hundred and nine cases of rheumatism treated with salicylic acid and salicine, at the Boston City Hospital, in the service of Drs. Borland, Blake, Curtis, Edes, Draper, Doe, Lyman, and Stedman.

Salicylic acid was first prescribed in rheumatism in this hospital on February 12, 1876, by Dr. J. N. Borland, and has been used in nearly all of the cases which have entered since. Our cases are not selected, but represent all those of rheumatism which have entered the hospital since the date mentioned except those of undoubted chronic character; fifty-nine were males, fifty females; thirty-nine had out-door occupations or those necessitating exposure; seventy, in-door or unexposed occupations; fifty-seven suffered from the first attack, thirty-two from the second, ten from the third, one each from the fourth and fifth, three from the seventh, three from "several," and two from "many" attacks.

In thirty-eight of the sixty-three cases observed which were treated with salicylic acid, the heart was normal throughout. In twenty-four the heart was affected at entrance. In two the cardiac disease disappeared while in the hospital.

In Cases 9, 25, and 27, the heart became affected after entrance. In Case 9 the heart was not affected until after the relapse, but the murmur became well pronounced before discharge.

Case 25 had complained of pain over præcordia and had a rapid and weak heart, with dyspnœa, from the time of entrance, but no abnormal sound was detected upon repeated examination until the eleventh day or long after convalescence.

Case 27 is interesting from the development of pericarditis after the rheumatic symptoms had wholly disappeared, although the right hand became affected again four days later. The autopsy showed the endocarditis present upon entrance to have been of recent date.

It is fair to assume that the heart was normal in a very large proportion of the cases in which its condition was not recorded. But upon the basis of sixty-three cases, the heart became affected after entrance in only 4.76 per cent., while under the alkaline treatment, in the series of cases reported by Dr. J. G. Blake,<sup>1</sup> 13 $\frac{2}{3}$  per cent. developed heart affections after entrance.

The average time to relief, that is, to the hour when the symptoms were distinctly ameliorated, was 1.46+ days, varying from three hours to four days. This is probably much too high, as in very few cases were more than ten to fifteen doses needed before marked benefit was experienced. The average time to complete cessation of pain was 2.85+ days, varying from twelve hours to fifteen days.

The average amount of acid taken to produce relief was one hundred and fifty-four grains; the quantity varied from thirty to two hundred and ten grains.

The amount required to produce complete relief from pain and mobility of the joints was 531.22 grains to each patient; to each attack, 343.73 grains. Deducting the three largest amounts taken, 880, 940, and 2250 grains, the average to each patient was 400.84 grains.

The average time during which the acid was taken by each patient was 6.22 days, varying from one day to thirty-one days. Excluding Cases 1, 19, 26, 36, and 103, the average number of days each patient was in the hospital was 18 $\frac{1}{2}$ , varying from three to fifty-nine days.

Case 1 is excluded because of the short time the acid was taken, the others because of their termination in chronic rheumatic arthritis. The acid, according to the records, produced no relief in three cases. In the first but five doses or fifty grains were given which is ordinarily too small an amount to be of service. Case 5 was subacute, in a debilitated subject, a variety not so easily controlled by the acid as a more acute form, and the trouble was probably due more to debility than to a true rheumatic state. Case 6 took but thirty grains a day, too small an amount to affect an acute case.

Two cases died, one from pericarditis and one from cerebral complications. Eighteen cases had one relapse, three had two, and one had five while in the hospital. There were very few cases in which there were not occasional pains for a time after the omission of the acid.

Nausea and vomiting were noted in twenty cases (in one case complicated by pregnancy), or in 18.8 per cent. Burning in the stomach occurred in one case. Headache was noted in six, ringing in the ears in nineteen, and deafness in ten cases; numbness and pricking of the affected parts were observed in three cases, in one extending to all parts of the body and in another persisting for two days after omission of the acid.

<sup>1</sup> Boston City Hospital Reports, First Series.



CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED.

NUMBER.	NAME.	AGE.	SEX.	OCCUPATION.	NUMBER OF ATTACK.	STATE OF HEART AT ENTRANCE.	STATE OF HEART WHILE IN HOSPITAL, AND AT DISCHARGE.	KIND OF ATTACK.	DAYS SINCE BEFORE ENTRANCE.	TIME TO RELIEF, AND AMOUNT OF ACID.	DAYS IN HOSPITAL.	REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC.	CONDITION ON DISCHARGE.
1	C. E.	25	M.	Cook.	Second.	Aortic and mitral murmurs.	At discharge, double mitral.	Acute.	8	Took but 50 grs. acid, with no effect. Other treatment alkaline.	57	5 hours.	Much relieved.
2	C. W.	23	M.	Waiter.	First. <sup>1</sup>	Normal.	Normal.	Subacute.	20	Alkaline treatment 20 days, with some relief. Acid 24 hours, with complete relief.	45 <sup>2</sup>	Acid 5 days; slight nausea.	Well.
3	C. R.	37	F.	Laundress.	" 3	"	"	"	4	No treatment 8 days. Acid 1 day, with relief.	27 <sup>4</sup>	Acid 7 days; headache.	Relieved.
4	A. A.	35	F.	Seamstress.	Seventh.	Aortic systolic murmur.	Not examined.	Acute.	3	Relief in 3 hours after use of acid.	15	Acid 3 days; ringing in ears; slight nausea.	Well.
5	N. D.	30	F.	Domestic.	Third.	Mitral systolic murmur.	Mitral systolic murmur.	Subacute.	5	Acid 3 days, with no relief. Iron and quinin, with relief.	53	Acid 3 days; headache.	"
6	J. S.	20	M.	Hat maker.	First.	Normal.	Normal.	Acute.	7	Acid 21 days, 30 grs. a day, with no relief. Alkalies and opiates gave relief in 7 days.	41	Acid 3 days; headache.	"
7	E. H.	35	M.	Agent.	Seventh.	"	"	Subacute.	4	Acid 1 day, caused nausea and vomiting. Alkalies 6 days, with relief.	22	Acid 21 days.	"
8	E. G.	39	M.	Druggist.	First. <sup>5</sup>	"	"	Acute.	61	Relief in 1 day; complete in 7 days.	30	Acid 7 days; convalescing on entrance; was well and helped in ward some time before discharge.	"
9	L. D.	21	M.	Laborer.	"	"	Heart irregular. Mitral systolic murmur	"	5	Complete relief in 1 day.	59	Acid 28 days; subacute symptoms returned for 8 days after a relapse because of exposure; deliriated; tonic and opiates.	Nearly well.
10	B. E.	34	F.	Housewife.	"	"	Normal.	"	7	Complete relief in 1 day.	13	Acid 13 days; slight recurrence of symptoms.	Well.
11	B. E.	34	F.	"	Second.	"	"	"	7	(1.) Complete relief in 2 days. (2.) Relief in 2 days; complete in 8 days.	30	(1.) Acid 2 days. (2.) Acid 8 days; recurrence; well - marked coexistent phthisis; tonic, etc.	Well of Rheumatism. <sup>4</sup>
12	J. B.	25	F.	Domestic.	"	"	"	Subacute.	14	Relief in 1 day; complete in 6 days.	8	Acid 8 days.	Well.
13	W. H.	35	M.	Wheelwright.	"	"	"	Acute.	15	Complete relief in 1 day.	11	Acid 4 days; severe case; rapid recovery.	"
14	L. C.	39	M.	Longshoreman.	First.	"	"	Subacute.	20	Relief in 1 day; complete in 2 days.	12	Acid 12 days; mild case.	"

<sup>1</sup> Family rheumatic.    <sup>2</sup> 25 days after beginning acid.    <sup>3</sup> Family rheumatic.    <sup>4</sup> 19 after acid.    <sup>5</sup> Family rheumatic.    <sup>6</sup> Figures in parentheses denote relapses.

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED (Continued).

Number.	Name.	Age.	Sex.	Occupation.	Number of Attack.	State of Heart at Entrance.	State of Heart while in Hospital, and at Discharge.	Kind of Attack.	Days Sick before Entrance.	Time to Relief, and Amount of Acid.	Days in Hospital.	Remarks. Days under Treatment, Whole Amount, Etc.	Condition on Discharge.
15	M. R.	22	M.	Gas fitter.	Second.	Normal.	* Normal.	Acute.	5	Relief in 1 day; complete in 3 days.	11	Acid 10 days.	Well.
16	J. W.	41	F.	Domestic.	"	"	"	Subacute.	21	Complete relief in 2 days.	17	Acid 15 days; mild case.	"
17	J. C.	26	M.	Laborer.	First.	Mitral systolic murmur.	Murmur more distinct.	Acute.	21	Relief in 2 days; complete in 4 days.	18	Acid 8 days; adynamic symptoms; quinine.	"
18	J. D.	39	M.	Engraver.	Third.	Aortic Valve normal. Mitral systolic murmur.	Heart rigid; aortic normal; mitral systolic murmur.	"	6	Salicylic 2 days, with little permanent relief; relief after 80 grs. acid.	5	Acid 2 days; cerebral symptoms; sudden great rise of temperature; death. Relieved by fall in JOURNAL.	Dead.]
19	M. E.	34	F.	Housewife.	First.	Not examined.	Mitral systolic murmur.	"	28	(1.) Relief from 12 doses. (2.) Relief from 8 doses.	45	Acid 4; 1875. (1.) Acid 2 days, 210 grains; nothing in case. (2.) Acid 1 day; slight recurrence; returned in chronic form; of virus-joint.	Relieved.
20	F. M.	32	F.	"	"	Normal.	Normal.	"	8	Relief in one day.	30	Acid 2 days; pregnant; acid was therefore omitted; alkali; tendency to chronic swelling in feet.	Well.
21	C. H.	33	M	Teamster.	"	"	"	"	28	(1.) Relief in 1 day, 150 grs.; complete in 2 days. (2.) Recurrence. Relief complete in 1 day, 100 grs.	13	(1.) Acid 4 days, 400 grains; fainting anuria. (2.) Acid 2 days; no nausea.	Well.
22	C. P.	38	F.	Housewife.	"	"	"	"	28	(1.) Relief in 1 day; complete in 2 days. (2.) Relief in 2 days; complete in 3 days. (3.) Relief in 2 days. Became chronic.	"	(1.) Acid 3 days, grains 370; fainting anuria. (2.) Acid 4 days, grains 400. (3.) Acid 8 days, grains 480; chronic arthritis of ankle-joint; foot rest, etc.	Well.
23	M. C.	18	F.	Weaver.	Third.	Enlarged; cardiac dullness; loud mitral systolic murmur.	Same at discharge.	Chronic, with acute attack.	Chronic, several months; acute 3 days.	Relief in 1 day; complete in 4 days.	60	Acid 1 day; 2 1/2 grains; nausea, vomiting, tingling in ears, numbness, and pitting of affected parts, which persisted two days after cessation of acid; patient much debilitated.	Well of rheumatism.
24	D. G.	20	F.	Domestic.	"	* Normal.	Normal.	Acute.	14	Complete relief in 2 days.	7	Acid 2 days; very slight return of pain.	Well.

25	H. R.	21	F.	Domestic.	First.	Pain over præcordia; heart rapid and weak; sounds normal; dyspnoea.	Soft mitral systolic murmur.	Acute.	10	Relief in 1 day; complete in 2 days.	17	Acid 3 days; tonic.	Well.
26	M. W.	24	F.	"	Second.	Normal.	Normal.	"	7	(1.) Relief in 2 days; complete in 24 days. (2.) Relief in 2 days. (3.) Relief in 2 days.	60	(1.) Acid 2½ days, 300 grains; ringing in ears. (2.) Acid 2 days, 210 grains; no head symptoms. (3.) Acid 3 days; no head symptoms. Afterward chronic; crepitus in knees.	Relieved.
27	J. A.	16	M.	Newsboy.	First.	Lead mitral systolic murmur; dyspnoea.	Third day, pericardial friction all over heart; twenty-first day gone; heart weak; convalescing.	"	5	Relief after 8 doses; complete after 12 doses.	24	Acid 30 hours; ringing in ears; nausea; 24 days after entrance got out of bed and exerted himself, causing violent palpitation, dyspnoea, bloody sputa, and death.	Dead.
28	M. K.	22	M.	Plumber.	"	Normal.	Normal.	"	5	Relief after 12 doses; complete after 24 in 30 hours.	6	Acid 30 hours; digestion not disturbed; iron and quinia.	Well.
29	S. S.	13	F.	Domestic.	"	Blowing systolic murmur at apex.	Same at discharge.	"	4	Relief in 15 hours, 125 grs.; complete in 1½ days.	21	Acid 11 days, 227 grains; iron and quinia.	"
30	J. I.	34	M.	Car driver.	Fourth.	Normal.	Normal.	"	7	Relief in 1 day, 160 grs.; complete in 27 hours; 23 doses.	19	Acid 27 hours; ringing in ears; deafness; 250 grains; numbness of affected parts; pneumonia of both bases on second day.	"
31	C. C.	25	F.	Domestic.	First.	"	"	"	7	Relief after 16 doses, 160 grs.; complete relief in 33 hours.	39	Acid 33 hours, 300 grains; nausea, vomiting; slight recurrence of symptoms; pneumonia of left base 13th day; chronic disease of aukes.	Relieved.
32	B. C.	46	M.	Junk dealer.	Second.	"	"	"	8	Relief in 17 hours, 170 grs.; complete in 27 hours.	31	Acid 27 hours, 270 grains; deafness; ringing in ears; prostration; profuse sweating.	Well.
33	J. G.	19	M.	Plumber.	"	Not examined.	Aortic systolic murmur; 11 days before discharge.	"	4	Complete relief in 3 days.	24	Acid 3 days, 410 grains; slight recurrence of pain; iron.	"
34	M. C.	22	M.	"	"	Normal.	Normal.	"	5	Relief in 2 days; complete in 4 days.	11	Acid 5 days.	"
35	M. G.	29	F.	Housewife.	"	Heart tumultuous; double mitral murmur.	Double mitral murmur.	"	35	Relief in 1 day; complete in 3 days.	3	Acid 3 days; improving on entrance.	"
36	L. M.	20	F.	Domestic.	First.	Normal.	Normal.	"	14	Complete relief in 2 days.	63	Acid 6 days; disease became chronic; wrist-joint affected.	Relieved.

1 34 before attack, 25 after.

2 Father died of heart disease.

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED (Continued).

NUMBER.	NAME.	AGE.	SEX.	OCCUPATION.	NUMBER OF ATTACK.	STATE OF HEART AT ENTRANCE.	STATE OF HEART WHEN IN HOSPITAL, AND AT DISCHARGE.	KIND OF ATTACK.	DAYS SICK BEFORE ENTRANCE.	TIME TO RELIEF, AND AMOUNT OF ACID.	DAYS IN HOSPITAL.	REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC.	CONDITION ON DISCHARGE.
37	R. F.	35	M.	Waiter.	Seventh.	Normal.	Normal.	Acute.	5	(1) Relief in 1 day, 150 grs.; complete in 2 days. (2) Complete relief in 1 day.	48	(1.) Acid 2 days, 250 grains; slight deafness and ringing in ears. (2.) Acid 1 day, 170 grains; in intervals pneumonia and fever, with no effect. (3.) Acid 3 days, 310 grains. (4.) Acid 3 days, 320 grains; good after the third day. (5.) Acid 3 days, 220 grains. (6.) Acid 10 days, 410 grains; slight nausea; ringing in ears. Total amount taken, 2250 grains. (1.) Acid 3 days; was removed twice; during the day after taking acid, temperature rose again; tongue turning dry; pulse increased; delirium, carphologia; temperature 101.5 to 102° for 4 days; slow convalescence. Acid 32 hours; slight nausea with first few doses; tonic.	Well.
38	J. W.	31	M.	Shoemaker.	Second.	Roughening of first sound at apex.	Heart, tumultuous throughout; short pre-systolic murmur at apex; at discharge roughness alone remained.	"	21	Relief after 8 doses; removed twice after, but the mental condition was such that the effect on pain is not known.	60	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"
39	J. S.	21	M.	Marketman.	First.	Blowing systolic murmur at apex; old cardiac trouble.	Same at discharge.	"	21	Relief after 12 doses, 120 grs.; complete in 32 hours.	7	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"
40	I. K.	19	M.	Polisher.	Second.	Heart rapid; valvular quality not well marked.	Systolic murmur at apex; normal at discharge.	"	2	(1.) Relief in 2 days; complete in 3 days. (2.) Complete relief in 1 day.	21	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"
41	H. S.	22	F.	Domestic.	"	Normal.	Normal.	Chiefly muscular.	21	Relief in 1 day; in 3 days had "use of joints not known for months."	14	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"
42	C. O. R.	49	F.	"	First.	"	"	Acute.	5	Relief in 1 day, 153 grs.; complete in 3 days.	31	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"
43	W. P.	42	M.	Carpenter.	Second.	"	"	"	21	Relief in 1 day; complete in 3 days.	23	(1.) Acid 3 days, 206 grains. (2.) Acid 2 days; flooding pains between attacks; pneumonia of right lower lobe. Acid 3 days, 146 grains; nausea, deafness, ringing in ears; in intervals pneumonia. Acid 3 days, 213 grains; nausea, ringing in ears, deafness, flooding pains. Acid 23 days, 990 grains; throat very raw and stiff; treated by electricity and friction.	"



CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED (Continued).

Number.	Name.	Age.	Sex.	Occupation.	Number of Attack.	State of Heart at Entrance.	State of Heart while in Hospital, and at Discharge.	Kind of Attack.	Days before Entrance.	Time to Relief, and Amount of Acid.	Days in Hospital.	Remarks. Days under Treatment, Whole Amount, etc.	Condition on Discharge.
56	M. M.	19	F.	Domestic.	First.	Palpitation, with pressure at pain before entrance; none after; no murmur.	Normal.	Acute.	10	(1.) Relief 16 doses, 160 grs.; complete relief in 3 days, 270 grs. (2.) Complete relief in 1 day, 160 grs. (3.) Complete relief in 1 day. Relief in 1 day, 180 grs.; complete in 2 days.	17	(1.) Acid 5 days. (2.) Acid 1 day. (3.) Acid 5 days. Acid 31 days; chronic synovitis of knee; tinct. iodine and blisters locally; potass. iodid.	Well.
57	W. C.	30	M.	Sailor.	Second.	Not examined.	Slight prolongation of aortic systolic sound; pain over precordium normal at discharge.	"	2		52		"
58	F. C.	27	F.	Housewife.	"	Mitral systolic sound prolonged; aortic sounds, faint.	Normal.	"	2	Relief in 1 day.	8	Acid 2 days; salicine 6 days; severe uterine hemorrhage; subacute pain in shoulder remained.	Relieved.
59	M. M.	16	F.	Domestic.	First.	Not examined.	"	"	14	Acid 1 day, with relief; complete relief in 2 days.	4	Acid 2 days.	"
60	F. G.	30	F.	"	"	Heart irregular.	"	Subacute.	21	(1.) Relief in 3 days; complete in 4 days. (2.) Relief in 2 days.	12	(1.) Acid 4 days. (2.) Acid 2 days; slight recurrence.	Well.
61	E. L.	40	F.	"	"	Heart irregular and intermittent.	"	Acute.	11	Relief in 2 days.	11	Acid 2 days; delirious after taking acid one day; alcoholismus? subacute pain in knee at discharge.	Relieved.
62	M. D.	22	M.	Laborer.	"	Mitral systolic murmur.	Same at discharge.	"	4	Relief in 1 day; complete in 3 days.	13	Acid 3 days, 320 grains.	Well.
63	B. C.	42	M.	"	"	Normal.	Normal.	"	14	Relief in 1 day; complete in 5 days.	14	Acid 5 days; pneumonia.	"

CASES TREATED BY SALICYLIC ACID, IN WHICH THE CONDITION OF THE HEART WAS NOT RECORDED

NUMBER.	NAME.	AGE.	SEX.	OCCUPATION.	NUMBER OF ATTACK.	KIND OF ATTACK.	DAYS SICK BEFORE ENTRANCE.	TIME TO RELIEF, AND AMOUNT OF ACID.	DAYS IN HOSPITAL.	REMARKS; DAYS UNDER TREATMENT; WHOLE AMOUNT OF ACID TAKEN, ETC.	CONDITION ON DISCHARGE.
64	H. F.	25	M.	Brakeman.	Third. <sup>1</sup>	Subacute.	9	Acid 8 hours, with relief.	82 <sup>2</sup>	Acid 16 days; alkaline treatment 20 days previously, with partial relief; acid caused slight nausea; iritis.	Well.
65	D. C.	24	M.	Laborer.	First. <sup>3</sup>	Acute.	14	Alkaline treatment 3 days, with some relief; acid one day, free from pain.	24	Acid 5 days; ringing in ears; deafness.	"
66	A. B.	26	M.	Painter.	Fifth.	Subacute.	4	Relief in 2 hours.	12	Acid 3 days; some nausea and headache.	"
67	K. H.	23	F.	Domestic.	First.	Acute.	3	Complete relief in 3 days.	22	Acid nine days; nausea; headache.	"
68	F. D.	19	F.	"	"	Subacute.	4	Relief in 1 day; complete in 5 days.	22	Acid 7 days.	"
69	S. S.	27	M.	Cigar maker.	"	Acute.	3	Complete relief in 3 days.	20	Acid 14 days; slight return of pain; stayed in hospital for abscess and sore throat.	"
70	J. W.	43	M.	Longshoreman.	"Several before."	Subacute.	5	Relief in 3 days.	37	Acid 21 days; localized swelling after acute stage; tinct. iodine, blisters.	"
71	J. C.	60	M.	Painter.	"	Acute.	14	Complete relief in 5 days.	17	Acid 5 days; improving on entrance.	"
72	W. C.	37	F.	Domestic.	Third.	Subacute.	30	Relief in 2 days; complete relief in 3 days.	35	Acid 3 days; tendency to become chronic.	"
73	J. S.	38	M.	Clerk.	Second.	Acute.	20	Complete relief in 4 days.	33	Acid 15 days; caught cold; slight recurrent attack.	"
74	E. S.	48	F.	Domestic.	"	Acute.	7	Complete relief in 2 days.	14	Acid 4 days.	"
75	M. L.	54	M.	Laborer.	"	"	6	Relief in 1 day; complete in 5 days.	11	Acid 8 days.	"
76	M. A.	22	F.	Domestic.	First.	"	6	Complete relief in 2 days.	13	Acid 5 days; severe attack.	"
77	M. L.	30	M.	Painter.	Second.	"	More or less for 60	Complete relief in 2 days.	24	Acid 8 days; persistent slight pain in shoulder; no swelling; vomiting.	Relieved.
78	J. C.	35	M.	Laborer.	First.	"	4	Relief in 2 days.	23	Acid 5 days; occasional intermittent pain after; much headache; slight nausea.	Well.
79	J. M.	39	M.	"	"	Subacute.	90	Relief in 1 day; complete in 15.	23	Acid 15 days; mild case.	"
80	F. C.	38	M.	"	Second.	Acute.	14	Relief in 1 day; complete in 2 days.	15	Acid 12 days.	"
81	J. B.	28	M.	"	Third.	"	3	Complete relief in 2 days.	7	Acid 7 days; small doses.	"
82	J. K.	18	M.	Brass finisher.	First.	Subacute.	14	Complete relief in 4 days.	38	Acid 5 days; greatly debilitated; stayed in hospital for treatment; tonics.	"
83	E. G.	38	M.	Laborer.	Second.	Acute.	3	Relief in 1 day; complete in 2 days.	18	Acid 7 days; slight return in left hip; iron and quinia.	"
84	F. F.	20	M.	"	First.	General pain.	60	Relief in 3 days.	22	Acid 6 days; tonics.	"
85	M. A.	22	F.	Domestic.	Second.	Subacute.	4	Complete relief in 1 day.	14	Acid 9 days.	"
86	M. A.	22	F.	"	"	Acute.	4	Relief 1 day; complete in 2 days.	10	Acid 5 days; tonics, iron and quinia.	"
87	J. C.	61	M.	"	Third.	"	6	Relief in 2 days; complete.	9	Acid 8 days.	"
88	F. S.	43	M.	Tramster.	First.	Subacute.	7	Relief in 3 days; complete in 4 days.	7	Acid 7 days.	"
89	F. S.	21	M.	Nurse.	"	"	4	Complete relief in 1 day.	3	Acid 1 day; mild case.	"
90	M. R.	41	F.	Laundress.	Many before.	Acute.	3	Relief in 1 day; complete in 2 days.	19	Acid 3 days; debilitated.	"

Father died of heart disease.

18 after acid.

3 Mother died of heart disease.

2 52 after acid.

1 Family rheumatic.

CASES TREATED BY SALICYLIC ACID, IN WHICH THE CONDITION OF THE HEART WAS NOT RECORDED (Continued).

NUMBER.	NAME.	AGE.	SEX.	OCCUPATION.	NUMBER OF ATTACK.	KIND OF ATTACK.	DAYS SICK BEFORE ENTRANCE.	TIME TO RELIEF, AND AMOUNT OF ACID.	DAYS IN HOSPITAL.	REMARKS; DAYS UNDER TREATMENT, WHOLE AMOUNT OF ACID TAKEN.	CONDITION ON DISCHARGE.
91	M. R.	19	F.	Domestic.	First.	Acute.	28	(1.) Relief in 3 days. (2.) Complete relief in 6 days.	45	(1.) Acid 6 days. (2.) Slight recurrence; acid 6 days; tendency to become chronic.	Well.
92	D. McC.	19	M.	Laborer.	"	Subacute.	28	Complete relief in 2 days.	25	Acid 9 days; slow convalescence; electricity.	"
93	D. McC.	19	M.	"	Second.	"	14	Relief in 1 day; complete in 2 days.	23	Acid 4 days; mild case.	"
94	M. F.	13	F.	Nursery girl.	First.	Acute.	2	Complete relief in 2 days.	14	Acid 14 days.	"
95	M. F.	13	F.	"	Second.	"	1	Complete relief in 2 days.	16	Acid 5 days.	"
96	E. G.	28	M.	Laborer.	"	Subacute.	1	Relief in 1 day; complete in 3 days.	10	Acid 10 days; mild case.	"
97	E. S.	30	F.	Housewife.	First.	Acute.	5	Salicine 2 days; 250 grains; slight relief; acid gave complete relief in 2 days.	24	Salicine 37 hours; acid 19 days; chronic stiffness and slight pain on motion remained; occasional flooding pain.	Nearly well.
98	W. K.	26	M.	File-cutter.	Several before.	Subacute.	8	Acid 2 days, with complete relief.	4	Acid 4 days; 290 grains; slight nausea; mild case.	Well.
99	M. F.	46	F.	Domestic.	First.	Acute.	7	Relief in half a day, 100 grains; complete in 4 days; recurrence; acid 1 day; relief.	21	Acid 10 days; 880 grains; recurrence while under small doses; ringing in ears; deafness; headache.	"
100	J. P.	22	F.	"	Second.	Subacute.	10	Relief; small doses 3 days.	7	Acid 3 days; mild case.	"
101	H. M.	22	M.	Carpenter.	First.	Acute.	14	Complete relief in 3 days.	21	Acid 3 days; tendency to chronic swelling.	"
102	M. M.	43	F.	Domestic.	"	"	4	Relief in 18 hours; complete relief in 3 days.	23	Acid 3 days; occasional fleeting pains; tinct. iodine locally.	"
103	N. H.	22	F.	"	"	"	16	(1.) Relief in 18 hours; complete in 2 days. (2.) Complete relief in 4 days of acute symptoms.	70	(1.) Acid 2 days. (2.) Acid 6 days; tonics, iodine, alkalies. Result, chronic rheumatic arthritis.	Relieved.
104	S. B.	58	M.	Blacksmith.	"	"	5	Complete relief in one day.	11	Acid 6 days; mild case.	Well.
105	C. C.	53	F.	Domestic.	"	Subacute.	6	Relief in 1 one day; complete in 3 days.	6	Acid 5 days.	"
106	A. B.	42	M.	Jeweler.	"	Acute.	3	Relief in 2 days; complete in 3 days.	6	Acid 4 days.	"

CASES TREATED BY SALICINE.

NUMBER.	NAME.	AGE.	SEX.	OCCUPATION.	NUMBER OF ATTACK.	STATE OF HEART AT ENTRANCE.	STATE OF HEART WHILE IN HOSPITAL, AND AT DISCHARGE.	DAYS SICK BEFORE ENTRANCE.	TIME TO RELIEF, AND AMOUNT OF SALICINE.	DAYS IN HOSPITAL.	REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC.	CONDITION ON DISCHARGE.
107	P. M.	25	M.	Plasterer.	First.	Normal.	Normal.	7	Relief in 1 day, 150 grains; complete relief in 5 days.	7	Salicine 7 days; appetite improved while under treatment.	Well.
108	D. S.	19	M.	Lithographer.	Second.	Normal.	Normal.	5	Relief in 2 days, 370 grains; complete relief in 5 days.	9	Salicine 7 days, 1240 grains; excellent appetite when pain ceased.	Well.
109	E. McM.	28	F.	Cook.	First.	Normal.	Normal.	21	(1.) Relief in 4 days, 520 grains; complete in 9 days. (2.) Recurrence; relief in 4 days.	21	(1.) Salicine 9 days. (2.) Salicine 7 days.	Well.

1 Mother rheumatic; father died of heart disease.



Delirium occurred in three cases, one possibly being delirium tremens. Was the delirium in the others caused by salicylic acid?

Nearly all of the cases in which nervous symptoms were manifested were those of persons in poor physical condition.

Pneumonia occurred in three cases; iritis, synovitis, herpes labialis, purpura, uterine hæmorrhage, sore throat, and conjunctivitis complicated one case each.

The universal result of the acid, when given in full doses, in acute cases was to cause a fall of temperature, but never much below the normal point. The effect on the pulse and respiration was less marked, as they usually fell less rapidly. The pulse rate often increased for a time in weak or debilitated subjects.

Experience has shown that the acid is much better adapted to acute than to other varieties of rheumatism. The following record of actual cases of acute rheumatism, treated by ten-grain doses hourly, is a fair example of the effect on pulse, temperature, and respiration.

(1.) Acid begun at six P. M. day of entrance. P. M. P. 120, T. 102.2°, R. 32. A. M. P. 96, T. 98°, R. 26. P. M. P. 98, T. 98.7°, R. 28.

(2.) Acid begun at one P. M. P. 100, T. 103.2°, R. 28. A. M. P. 92, T. 99.8°, R. 24. P. M. P. 88, T. 99°, R. 24.

(3.) Acid begun at six P. M. P. 116, T. 103.8°, R. 28. A. M. P. 124, T. 100.6°, R. 28. P. M. P. 112, T. 99.4°, R. 24. Most patients perspired freely, a few profusely, while under treatment, but there were no cases of collapse or even of marked prostration.

The case whose temperature is given last was a poorly fed, debilitated subject, who took ten grains of the acid for twenty-seven consecutive hours. There was tinnitus aurium, deafness, very profuse perspiration, which continued several hours after the omission of treatment, and a sense of general weakness. This was the most marked case of prostration, but the patient soon rallied from it.

Case 37 is remarkable for the number of relapses and the amount of acid taken. The patient was a large robust Englishman, otherwise in vigorous health. While under treatment for the first attack there was slight deafness and ringing in the ears. With the last relapse there were similar symptoms and slight nausea. There were no other unpleasant symptoms and the appetite was excellent throughout.

Many cases were left in a poor general condition after treatment, with more or less complete loss of appetite; to recover from this state often required more time than to produce a cure of the rheumatic symptoms.

The patients were usually placed upon treatment by the house physician soon after entrance, the common dose being ten grains every hour while awake, for twelve to thirty-six hours, when the symptoms

were wholly or partially relieved. Then the practice has varied, the acid being omitted altogether or reduced to ten grains every two or three hours for a time, to be again reduced and finally omitted in from ten days upward. Usually no opiates were given and no attention was paid to the condition of the bowels. The acid was first taken in wafers, but it occasionally happened that an awkward patient would break one in his mouth and release the pungent acid, producing very unpleasant sensations and perhaps a refusal to take any more. A substitute was found, in the service of Dr. Blake, in pills made with honey or molasses, containing  $3\frac{1}{2}$  grains each, about the size of a compound cathartic pill. They have been much more satisfactory and have been almost exclusively used since. The various solvents, soda and ammonia salts, glycerine, etc., have been but little used.

The number of cases treated with salicine is too small to base any definite conclusion upon as regards its value when compared with salicylic acid or any other method of treatment. It certainly acts more slowly than the acid. It has been used in six cases during part of the treatment and in three during the whole. The dose varied from five to fifteen grains per hour, and was taken with no bad effect; in fact, those who took it throughout had excellent appetites and made a rapid and thorough convalescence, instead of being left in a generally poor condition with no appetite, as was too often the case with those treated with salicylic acid. Of the six cases who did not take salicine continuously until recovery, four were relieved, and two were not relieved after taking it from two to four days. The three cases who took it throughout were acute, of moderate severity. The heart was normal in all. The average time to relief was  $2\frac{1}{2}$  days; to complete relief,  $6\frac{1}{2}$  days; the average amount taken was  $346\frac{2}{3}$  grains, ten grains every hour. The average time in hospital was  $13\frac{1}{2}$  days. There was relapse in one case. Because of its better general effect on the patient, salicine seems to merit a more extended trial.

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### CASE OF CEREBRAL SOFTENING.

BY A. W. BACHELER, M. D., MIDNAPORE, INDIA.

JOGA SANTAL, a prisoner sentenced for a term of ten years, for robbery, seven years of which had expired, was admitted into the jail hospital at Midnapore, April 2, 1876, for general debility. I copy a few entries from the bedside record.

"April 29th, had fever. Appetite bad.

"April 30th. Had a slight fit.

"May 5th. Unable to walk. Had four fits.

"May 12th. To this date fever, with three or four fits daily. At this time complained of pain in the neck and lower portion of head.

"May 16th. Pain in neck continues, but no fits since last date.

"May 30th. Partial paralysis of nerves of motion in left leg and arm.

"June 12th. Pain in head and neck and paralysis much the same."

I saw this patient frequently during the three months of his illness, and made repeated and careful examinations. When lying on his cot he appeared in comparative health, and complained of little or no pain. On being raised on to his feet he would begin to tremble, and after a few seconds would become insensible. Usually, however, if placed immediately on his cot, the disturbance passed off in a few minutes. He gradually grew weaker, became somewhat emaciated, but with no important change of symptoms, and died August 23d. I learned after his death that during the last two days of his life there had been slight paralysis of the nerves of sensation in the left leg and arm. Disease of the cerebellum was diagnosed, and the treatment adopted was a seton to the neck, the galvanic battery, iodide and bromide of potassium, strychnine, and general tonics. The case was one of unusual interest on account of the obscurity of the symptoms.

*Autopsy.* — A strong, muscular man of about thirty years of age. The base of each lung was thickly studded with tuberculous deposits. Ulceration progressing. Cavities throughout these portions varying from one eighth of an inch to an inch in diameter; at least twenty or more. By estimate, thirty-two ounces of bloody matter were found in the thoracic cavity. On opening the head about sixteen ounces of serum were found in the cavity of the brain. External appearance of brain normal. Cerebellum softened throughout. At its central base, just beneath the medulla oblongata, but not involving it, was found a hard lump of the size of a small hen's-egg, which when laid open showed a consolidation of brain substance of cheese-like consistence and of a yellowish color. Medulla oblongata softened. Spinal marrow for three inches completely disorganized, only a few shreds remaining, the softer portions having oozed out during dissection; thence for twelve inches softened, and the remaining portion congested.

The interesting features of this case are: (1.) That such extensive disease of the lungs could exist with the absence of all the ordinary symptoms of phthisis. No pain in the chest had ever been complained of, and no unusual expectoration or cough had been noticed.

(2.) That such extensive disorganization of the cerebellum and spinal marrow should have caused so slight paralysis of the motor nerves, and, until near the last, no perceptible paralysis of the nerves of sensation.

(3.) As the entire cerebellum was involved in the disease, why was the paralysis on one side only?

It is but just to state that the patient was a common coolie, a well-developed gorilla, with a nervous system not at all delicate.

MIDNAPORE, December 1, 1876.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.<sup>1</sup>

BY D. H. HAYDEN, M. D.

*Intussusception.* — At the meeting of the Berlin Medical Society, held May 3, 1876,<sup>2</sup> Herr Senator reported a case of invagination of the lowest portion of the intestine in a boy three months old. The invaginated part could be felt by the finger introduced into the rectum. Replacement was easily effected, but the invagination would immediately return, for which reason after each reposition long-continued injections of water or of air were used, and later a rectal bougie was introduced and allowed to remain until expelled by an operation of the bowels. After each reposition the child's condition improved, but with the return of the invagination again became worse, and during the first three days that the child was under observation there was vomiting of fecal matter. On the fourth day there was distention of the abdomen, with tenderness on pressure, and the temperature reached 102° F. The treatment for these symptoms consisted of compresses of ice-water over the abdomen, which were used with good effect. Reposition was made for the last time on the fourteenth day of the disease. Eight days afterwards the child was discharged, well, and during the several weeks that have since elapsed he remains in perfect health.

Herr Henoch remarked that this case was illustrative of what we know by experience, namely, that in earliest infancy invaginations rarely cause the formation of adhesions, and therefore that such cases were apparently suitable for attempts at reposition. He considered such manipulations, however, accompanied with great danger, and thought that it was a question if it were not better to act on the *ne quid nimis* principle, and trust to the ice-and-opium treatment which keeps the intestine quiet and favors the formation of adhesions and the subsequent separation of the invaginated portion. In the case reported the possibility of such adhesion and separation seemed very good, as there were bloody discharges every time the reposition was discontinued. These bloody discharges are due to venous stagnation caused by the intussusception, and after these have made their appearance necrosis and separation could easily follow. Although in Herr Senator's case recovery took place, symptoms of diffuse peritonitis, which is an especially fatal accident in infant life, made their appearance during the course of the disease.

Herr Senator did not agree with Henoch as to the treatment of this disease in infants, and considered the first duty in such cases to be the attempt to reduce the invagination. One must naturally be sure of the

<sup>1</sup> Concluded from page 139.<sup>2</sup> Berliner klinische Wochenschrift, August 28, 1876.

diagnosis, and must proceed with the greatest care and delicacy. The ice-and-opium treatment is rightly the most approved method with adults, since with them the invagination is rarely situated deep down, as is the case with infants, and for this reason diagnosis and reposition are both more difficult. In spite of the ice-and-opium treatment death often takes place, and the fear of rupturing adhesions that may have formed should not deter us from attempting replacement. When the invagination continues without replacement, peritonitis and gangrene always ensue, which is far more dangerous than a peritonitis that may be set up after a replacement, and often there is no peritonitis at all. Reposition, therefore, should always be resorted to when practicable, and is a far more rational method of treatment than to leave the disease to nature. In the case reported the speaker did not consider that there was a veritable peritonitis, but the symptoms were simply those of irritation, and there were no adhesions formed. He believed, in fact, that by reposition peritonitis was prevented, and considered it very doubtful if, when adhesions to any extent were formed, reposition could be effected.

Herr Fränkel considered the indication of first importance in intussusception, as in strangulated hernia and in typhlitis stercoralis, to be the removal of the cause. As soon, however, as peritonitis or irritation of the peritoneum has made its appearance, we should desist and rely entirely on opium.

Herr E. Küster and Herr Baginsky agreed with the views expressed by Herr Senator, the former considering that careful attempts at reposition should be made, even if there existed symptoms of peritoneal irritation.

*Iodine and its Preparations in the Therapeutics of Infancy.*—In a clinical lecture delivered at the Paris Hospital for Children, M. Jules Simon<sup>1</sup> lays particular stress upon the following points: Tincture of iodine should not be applied pure in tubercular children; it should be diluted either with glycerine or with some unguent. Neither iodide of potassium nor iodide of iron should be given to children under two years of age, except perhaps in cases of acute hereditary syphilis, where small doses may be administered. It may be given to the nurse if the child have not been weaned. Older children bear the drug well. Those who are especially benefited by it are patients robust in appearance, but with soft, inelastic flesh, and with manifestations of incipient scrofula. Iodoform is of great service in cases of ozaena and scrofulous wounds. Albuminuria has been observed by M. Simon in a large number of cases to follow paintings of the surface with tincture of iodine especially when it is applied to eruptions. Iodide of potassium produced the same result, but in a smaller degree. Under this head further investigations are promised.

<sup>1</sup> *Moniteur thérapeutique*, August 7th. *London Medical Record*, November 15, 1876.

*Observations on the Diætics of Infants.* — Dr. Franz Peters<sup>1</sup> gives the results of the methods adopted in bringing up children at a foundling asylum established in Bonn in 1873. The institution was under the direction of Professor Binz. In the first year, owing to unfavorable circumstances, the mortality was sixty per cent., but in the second year, when a suitable house had been procured, there were but nine per cent. of deaths, a striking result in view of the fact that the children were necessarily brought up by hand, and that the condition of many of them at entrance was very poor. The food was artificial in all cases except when, during the first few weeks, the mother's milk was accessible. The objections to cow's milk are fully stated, and the following table is given to show the essential differences between human milk and cow's milk in 1000 parts : —

	Human Milk.	Cow's Milk.
Casein	28.11	54.03
Fat	35.64	53.05
Lactose	48.17	40.37
Salts	2.42	5.48
Water	885.66	857.05

Beside the difference in quantity the casein of cow's milk has different chemical properties from that of the mother's milk. The experiments of Biedert, in 1869, are referred to. He pointed out that the human casein was neutral or slightly alkaline, whereas the cow casein had an acid reaction; further, that the former was easily soluble and the latter quite insoluble in water; that artificial gastric juice, dilute mineral acids, wine, milk, etc., dissolved the human casein more or less easily, while the cow casein remained insoluble or dissolved under certain conditions only; and finally, as was shown by experiments, that the human casein was digested in a considerably shorter time than the other. Dr. Langgard<sup>2</sup> confirmed these statements. It is also said that the casein of human milk coagulates in loose, fine flakes, the cow casein in large, clumpy, adherent masses, which the infant's gastric juice penetrates with difficulty. Therefore they may remain long undigested, and, through mechanical irritation, may easily cause vomiting. The less firm coagula of the human casein are much more digestible. The great similarity between the chemical properties of human casein and that of mare's milk is noticed by the author, but as the latter is rarely available, he concludes that, in spite of the digestive disturbances which often arise, cow's milk, properly diluted and prepared, must remain the common substitute for the natural nourishment of sucklings.

In the asylum at Bonn condensed milk from Switzerland was found to possess advantages over fresh cow's milk, without being in any way inferior in point of nutritious qualities. The Swiss animals, which pass much of the time in the open air, were thought to give milk of better

<sup>1</sup> Jahrbuch für Kinderheilkunde, Band x. 314.

<sup>2</sup> Virchow's Archiv, Band lxx. Heft i.

quality than cows shut up in narrow, dark, ill-ventilated stalls, and the condensed milk was found to be less liable to spoil than ordinary milk, even if exposed for a considerable time to the action of the air, since the fermentation corpuscles do not penetrate the consistent medium, or if mechanically mixed with the milk they do not further develop. The results bear out these suppositions to a great degree, as during the previous hot summer among twelve children fed exclusively on condensed milk there was no digestive disturbance of importance, a fact more noticeable when it is considered that many of them had been neglected and were in a bad state of nutrition on entrance. One portion of condensed milk to twenty-two of water was given during the first three months; from then until the eighth month one part to eighteen, and later one part to twelve.

There was an objection to the use of condensed milk alone, namely, a deterioration of the bones as in a slight degree of rachitis. This symptom was observed in almost all the children, even in those who were otherwise well nourished. The cause was sought in the food, and was thought to be due to the great amount of sugar in the condensed milk, which generated an excess of lactates, these in turn entering the circulation, and in accordance with their recognized property acting as solvents of the lime salts.

The preparation called "leguminose,"<sup>1</sup> which is probably nothing more than finely pulverized lentils, was found to counteract this tendency to bone degeneration as well as to improve the general nutrition of the children, inasmuch as it supplies the salts necessary to healthy bone formation. Leguminose was combined with the milk in the following manner: A tablespoonful of the meal was mixed with a pint of water and boiled half an hour, with the addition of a little salt. Of this soup children during the first three months took a tablespoonful with their milk daily, older children as much as four tablespoonfuls with each portion of milk, and it was thought that after a time the effect on the development of the bones was highly beneficial. The only objection to the leguminose was the high price, a mark and a half (about forty cents) a pound.

The good results attained in this institution are attributed by the author to the extreme care taken to prevent disturbances of digestion by the choice of a suitable form of nourishment, the greatest cleanliness in regard to the drinking vessels, regularity in feeding, and care that the children should have plenty of fresh air, both within and out of doors.

In simple dyspepsia, when the milk is regurgitated and the gastric juice seems to have lost its property of coagulating the casein, a condition which should be corrected before it leads to more serious disturbance, very dilute muriatic acid was found to act favorably, and as more

<sup>1</sup> See JOURNAL, xcv. 164.

serious gastric disturbances were also remedied by the same means the author thinks that they were often due to the absence of sufficient free acid in the gastric juice.

Gastro-intestinal catarrh, which is often so dangerous an affection in infants, was treated with gum arabic, one to two teaspoonfuls in half a pint of the preparation of condensed milk previously described. This was given immediately after the first symptoms of an attack, and was repeated with each portion of milk. In some instances the next discharge was rendered normal. The good effect was considered to be owing to the emollient action of the gum arabic upon the mucous membrane of the stomach and bowels, as well as to the mechanical covering supplied to the lining coat. It was also supposed to assist in dissolving the caseous coagula.

A daily bath of two or three minutes was given to all the children, the temperature of the water being at 26° R. (90.5° F.). The thermometer in the rectum showed that the temperature of the body was not affected thereby. This agrees with the experiments of Liebermeister, Kernig, Jürgensen, and others as to the effect of cool baths of moderate duration on healthy persons. The variation in temperature was never more than one tenth of a degree Centigrade.

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## THE BOSTON SOCIETY OF MEDICAL SCIENCES.

EXTRACTS FROM REPORT OF PROCEEDINGS FOR OCTOBER AND NOVEMBER, 1876.

JAMES J. PUTNAM, M. D., SECRETARY.

TUESDAY, October 30th. *Pain in Facial Paralysis.* — DR. WEBBER read a paper illustrated by diagrams upon the significance of pain as a concomitant symptom of facial paralysis. After referring to the fact that so little is to be found on this subject in the text-books, he said that in more than half the cases of facial paralysis which he had observed, pain had been present, though its exact seat had been noted in five cases only. In those the pain had been chiefly in and behind the ear and along the lower jaw; in one or two cases its distribution had been more general. He regarded it as possible that branches of the fifth pair might be affected in their bony canals, like those of the seventh, so as to cause pain and numbness, but, finding that the facial nerve is known to anastomose with the auricular branch of the pneumogastric, which traverses a canal in the mastoid bones, the idea had suggested itself that the same influence which causes the facial paralysis might implicate this auricular branch. This might happen even before the facial nerve was attacked, causing the pain to precede the loss of motion, or the two affections might even take place simultaneously. The auricular branch is distributed to the parts where the pain was felt in the cases reported, though in some of them there had also been pain in parts supplied by the fifth nerve.

In reply to Dr. Dwight, Dr. Webber said he believed the anastomosis referred to to be a constant one.



In answer to Dr. Fitz he said that there was no reason to regard this paralysis of the facial as rheumatic in the strict sense of the word, but that in many cases, at least, it was reasonable to suspect the presence of an inflammation of the nerve sheath, causing pressure on the nerve fibres, though no proof could be given of the fact.

DR. PUTNAM had seen a number of cases in which pain associated with tenderness on pressure had been present in various parts of the face, but especially along the side of the forehead at certain points; and he had believed these symptoms to be due to an inflammation of the sheaths of the terminal fibres of the facial nerve involving fibres of the fifth nerve, possibly those, if such exist, which ramify in the sheaths of the motor nerves. He had also recently seen a case belonging to the type of the moderately severe cases of facial paralysis, of so-called rheumatic origin, where the patient when asked to point out the parts where the pain was the severest touched in turn almost exactly the places at which the main branches of the fifth nerve leave their bony canals.

*Distribution of the Median and Ulnar Nerves.* — DR. PUTNAM showed two colored casts illustrating the position of the anæsthetic zone in a case of accidental section of the median and ulnar nerves at the wrist. The case had repeatedly been examined with care and the limits of the anæsthesia as mapped out corresponded to the condition of the patient several months after the accident. The sensibility of the entire palm was more or less impaired, though but very slightly so over an area bounded anteriorly by a line which corresponded almost precisely with the superficial palmar arch. This area must therefore have received its sensitive nerve supply either from cutaneous nerves given off from the brachial plexus or from branches of the median and ulnar given off above the seat of injury (palmaris ulnaris and medius). Beyond the line indicated the skin became rapidly insensible to the strongest excitations of every kind, the intervening zone, where touch alone was abolished, having a width of not more than one third of an inch. All the palmar surfaces, strictly speaking, of the fingers and the thumb were completely anæsthetic, except that the first phalanx of the little finger was partially sensitive, being apparently supplied in part by a branch of the dorsal division of the ulnar, which for other reasons was believed to have escaped section, namely, because the sensibility over the back and sides of the little finger was unimpaired. The radial nerve was found to supply the entire backs of the thumb and of the first two phalanxes of the index finger and the first phalanx of the two middle fingers.

The distribution of the median and ulnar to the fingers as thus ascertained was shown to agree strikingly with that laid down by Richelot as a result of his careful dissections. The fact that the limits of the anæsthesia in this and in certain other cases referred to were so exactly defined could not but suggest a doubt as to whether the observations of Arloing and Tripier upon animals, which showed such an extensive overlapping of the areas of distribution of the different nerve territories, due to recurrent nerve fibres, are to be regarded as applicable with propriety to man.

DR. WEBBER referred to the great variations between different cases, as to the distribution of the median and ulnar nerves.

THE QUARTERLY JOURNAL OF INEBRIETY.<sup>1</sup>

THIS new and good-looking quarterly takes its place in the ranks of special journalism as the exponent of the American Association for the Cure of Inebriates. Its object is of vast social importance, and its welcome should be a cordial one. Its contents are chiefly the president's address, the proceedings of the association at its seventh annual meeting at Philadelphia last September, and a paper by Dr. George M. Beard on the Causes of the Increase of Inebriety in America, read at the same time and place.

Dr. Mason's address gives a sketch of the rise and present *status* of asylums devoted exclusively to the treatment and cure of inebriates. He is right in attempting to prove that inebriety is a disease, quoting largely from Dr. Rush as an early authority, since many are still disinclined to adopt this view. At the late church congress in this city, a New York physician advocated the punishment of all drunkards, as if drunkenness were always a vice. Habitual inebriety is, no doubt, usually a disease originating sometimes in the vice of intemperance, and sometimes in hereditary constitutional defect. The difficulty in dealing with it arises from the impossibility of demonstrating to what degree the inebriety is voluntary. It is the same difficulty which exists in partial insanity with its corollary, limited responsibility. Punishment is suited to the vice only, restraint to the disease, and when vice and disease coexist, as is often the case, it is hard to mete out a just measure of each to the individual.

The voluntary seclusion of a Washingtonian Home is well adapted to a certain proportion of cases of inebriety; the mistake of the advocates of this kind of treatment consists in thinking it applicable to all cases. To be sure, it is impossible to select such as will certainly be cured under the voluntary system, but after the best selection possible only thirty-three and one third per cent. of cures is claimed, and this is probably much too large. The great problem remains how to deal with the other two thirds, and what to do with the great army of common drunkards which never lacks recruits. Restraint of different kinds and degrees is suited to the different classes of inebriates. For many it seems that commitment by law to some institution having power to retain and control the patient for many months is necessary. Such commitment is especially required by the ignorant, vicious, and law-breaking inebriate, and also for the drunkard by inheritance, and the dipsomaniac with dangerous tendencies.

The association indorsed the resolutions adopted by the International Medical Congress, which affirm that alcohol has no definite food value, which approve of inebriate asylums, and denounce the commitment of inebriates to hospitals for the insane. If inebriety is a disease, as Dr. Mason and his associates claim, it certainly has all the characteristics of mental disease in many cases. If it is a disease, it must render the patient irresponsible for acts of violence done under its influence. There is a defect in the logic of these resolutions which arises from a partial and one-sided view.

Practically, not half a dozen cases of simple dipsomania are yearly committed

<sup>1</sup> *The Quarterly Journal of Inebriety*. December, 1876. Vol. I. No. 1.

to hospitals for the insane in this State, whatever may be the rule elsewhere. Although theoretically insane, there are reasons for the separate treatment of this class of patients, and but a few exceptional cases are ever sent to insane hospitals. If an institution with power to retain for a definite period existed, the number of "rounders" at Deer Island and the Washingtonian Home would be diminished. I believe the best treatment for a majority of confirmed inebriates to be prolonged detention, good food, plenty of work, and a helping hand at the time of discharge. *Work* I believe to be an essential in the treatment, and it should be made to some extent compulsory, as society has at least the right to the labor of the pauper class of inebriates, and this right coincides with their highest welfare. A work-house for common drunkards and a state asylum for inebriates of a special class are needed to complete the good work now only in part accomplished by our voluntary inebriate asylums. A commission has just been appointed by the mayor of Boston, consisting of Drs. Tyler and Shattuck and the Rev. Dr. Miner, which will no doubt make some wise recommendation on this subject.

Dr. Beard's paper asserts, and perhaps not without warrant, that inebriety as a vice is diminishing, while inebriety as a disease is increasing with the general increase of mental and nervous diseases, and from similar causes. As our advancing civilization imposes greater tasks on the brain than formerly, more and more individuals succumb to over-work and to attendant over-stimulation. To support this proposition he compares the higher and lower classes. The latter in their outward condition occupy a similar position to that of our ancestors of a hundred years ago. In proof that they are less subject to nervous disorders, Dr. Beard adduces his failure to establish a hospital for functional nervous disorders in connection with one of the large dispensaries of New York from lack of material. He mentions hay fever as a neurosis seldom seen among the poorer classes. The vice of inebriety he thinks prevails in the laboring class because, as Bulwer says, "it takes a strong constitution to be dissipated."

He compares also the present with a quarter or a half century ago, and presents the testimony of old physicians as to a change in the type of disease. Certain nervous affections, such as neuralgia and sick headache, were, he thinks, unknown by name or symptom seventy-five years ago. Our grandfathers could go all day with wet feet, or sit for hours in a cold church. A temperature of 60° was comfortable to them, while we require 70°. They digested pork with ease, which food is fast becoming obsolete with us. Opium put them to sleep while it keeps many of us awake. The number of those in the community who cannot use tea, coffee, or alcohol is very large, and nervous idiosyncrasies are increasing.

By comparing the present with the middle ages he draws similar conclusions, and the nervous constitution of the women of our day adds another argument to the list. He admits in opposition to this line of reasoning the fact that longevity increases with civilization, but thinks the two arguments are not irreconcilable, and he believes that evolution is gradually preparing a race fitted to survive.

Dr. Beard thinks that inebriety necessitates confinement of the patient in

some institution where alcoholic liquors cannot be obtained. This is not always the case under the voluntary system, if we can believe the testimony of Dr. Bucknill and that of discharged inmates. The possibility of getting liquor and the brief period of residence (usually four or five weeks only) prevent this system from being of use in cases of confirmed inebriety where the disease is chronic and perhaps hereditary. This freedom from restraint is at once the weak and the strong point in the voluntary system. Those who have considerable strength of will remaining are more surely benefited by moral restraint alone, while others whose disease might be cured by prolonged treatment under restraint are allowed to relapse again and again. Dr. Beard thinks confinement does even more for the inebriate than for the insane, and so we think. In addition is required medical treatment, moral encouragement, and congenial occupation.

T. W. F.

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### FOSTER'S PRACTICAL PHYSIOLOGY.<sup>1</sup>

THE constantly increasing number of text-books professing to give practical directions for physiological investigations and demonstrations shows clearly how the conviction is gaining ground that to teach physiology successfully the didactic must be supplemented by the experimental method. The little volume before us contains a full description of a practical course in physiology as given by a most eminent and successful teacher of that science. Its most striking feature, and one which the author fears will be likely to restrict its use, is the close combination of histology and physiology, two branches which are commonly taught in distinct courses.

Professor Foster gives in his preface the following reasons for uniting these two subjects in a single course: "Histological work, unless it be salted with the salt either of physiological or of morphological ideas, is apt to degenerate into a learned trifling of the very worst description; and students are generally only too ready to spend far too much of their time in the fascinating drudgery of cutting sections and mounting stained specimens. In morphological questions the physiologist has but an indirect interest; and details of microscopic structure ought only to occupy his attention in so far as they serve as a basis for physiological deductions. The reader in looking through this little book will see that in it structure and function go hand in hand. In the case of each tissue or organ, as far as practicable, the anatomy and histology are first studied, and then without delay the physiology, so that the student may, in learning what is known concerning the action of the part, form an opinion of the relative importance of the structural details."

Of the soundness of these views there can be little doubt, and looking at the subject from the medical student's point of view it is perhaps to be regretted that in the specialization of medical instruction, histology and physiology have been so widely separated; but it must be borne in mind that investigations or advanced studies in these two branches require for their successful prosecution tastes and talents of very different sorts, which are only exception-

<sup>1</sup> *A Course of Elementary Practical Physiology.* By M. FOSTER, M. D., F. R. S., assisted by J. N. Langley, B. A. London: Macmillan & Co. 1876. Small 8vo, pp. 244.

ally, as in the case of Professor Foster, found united in the same individual. The special student of medical science will therefore find that, as a rule, progress in these two departments is favored by their separation.

It does not, however, necessarily follow that the use of the manual before us will on this account be restricted; for teachers in both these branches will find it of very great assistance in suggesting methods of giving practical instruction, and students both of histology and physiology will nowhere find a more useful set of directions for the prosecution of their studies. B.

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### WATSON ON DISEASES OF THE NOSE.<sup>1</sup>

THE extent of the field which the author has endeavored to cover in this book may be judged by a glance at the table of contents, — anatomy and physiology of the nose and nasal fossæ, twenty-three pages; preliminary remarks on rhinoscopy, anterior and posterior, and non-ulcerative affections of the mucous membrane of the nasal fossæ, fifty-two pages; ulcerative affections of the mucous membrane of the nasal fossæ, twenty-nine pages; ulceration of the bones and cartilages, necrosis and caries, certain affections of the septum, eleven pages; diseases and injuries of the frontal sinuses, twenty-one pages; diseases of the antrum of Highmore, forty-six pages; diseases of the lachrymal sac and nasal duct, twenty-pages; diseases of the skin and subcutaneous tissues, forty-one pages; tumors of the nasal fossæ and naso-pharyngeal polypi, twenty-three pages; injuries of the nose, five pages; malformations, distortions, and mutilations of the nose, twenty-eight pages; functional derangements of smell, anosmia, sneezing, spasmodic twitchings, fourteen pages; intracranial complications of affections of the nose and its accessory cavities, four pages; the function of smell in relation to hygiene, sanitary science, and medico-legal questions, fifteen pages; appendix of cases, seventy-nine pages.

It may be thought by some that the author has attempted a little too much, but it cannot be denied that, in view of the extent of his work, he has, as a rule, done it quite thoroughly, and has collected a mass of information on the above subjects which has never before been brought together in one book.

We are glad to see that the author lays stress upon the proper dilatation and illumination of the nares for anterior rhinoscopy, and that he makes favorable mention of the snare and other means of removing gelatinous polypi besides the murderous, old-fashioned forceps.

Meyer's remarks on the treatment of adenoid vegetations at the vault of the pharynx are quoted, but the author seems to have had no experience with them himself. Indeed, the mention of posterior rhinoscopy and its results in general is not such as we could have wished, and we fear that the author has had little experience with it, for he says (pages 32 and 33): "It is not often that much information as to nasal disease is obtainable by the use of the laryngoscope (rhinoscope), but when it is available the advantages derived from it are very great and striking;" and again, "all authorities are agreed that

<sup>1</sup> *Diseases of the Nose and its Accessory Cavities.* By W. SPENCER WATSON, F. R. C. S. Eng., B. M. Lond., etc., etc. London: H. K. Lewis. 1875. Small 8vo. Pp. 472.

posterior rhinoscopy presents very great difficulties, but that in a number of cases great skill, patience, and judgment on the part of the surgeon, with a corresponding amount of patience and self-control on the part of the patient, will enable us to examine this region with great advantage as an aid to diagnosis, treatment, and the ascertaining the results of treatment;" an assertion which hardly conveys a fair estimate of the present state of science.

The book contains much valuable information, however, and will make a substantial addition to any medical library. In a future edition some chapters might be abridged without any real loss.

The work is illustrated by some excellent lithographic plates and wood-cuts.

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### PROFESSIONAL INCOMES.

EVIDENCE of the financial distress which has pervaded the country for nearly four years is not wanting in the medical profession. The downward tendency of prices which followed the first crash has been steadily affecting one class of the community after another, and physicians, although not among the first to suffer, have undoubtedly experienced during the past year a marked diminution of professional income. Our opportunities for observing this fact have been varied and numerous, showing clearly that in spite of the proverbial security of an income, which, though moderate, flows from the necessities of life rather than from its luxuries, there is no complete immunity from deep-seated financial disease such as the one from which we are now emerging. People are beginning to discover that the physician is, in many cases, a luxury which they are at present unable to afford, and have been driven in many cases by necessity to substitute their own offices for those of the doctor. A general shrinkage of incomes such as is witnessed at rare intervals in this country has been the result.

Other causes may have helped to bring this about. There has been inflation in medical education as well as in trade. The ranks of the profession were swelled by an unusual number of recruits during the war, and the study of medicine became more popular in the years following it. The readiness with which degrees have been obtained, and the somewhat limited choice which a young man in this country has who does not wish to apply himself to trade, have induced many to take up this calling.

These various agencies combine to make large professional emoluments more difficult of attainment than in former years. A glance at the past, however, will undoubtedly reassure many who complain of the present hard times.

We have had an opportunity to see a curious document, a remonstrance from the citizens in Beverly, of this State, to the physicians of that town against raising the fee for a medical visit from forty-two cents to fifty cents. The paper was drawn up at a town meeting held March 2, 1836, and was addressed to "Messrs. Ingalls Kittredge, W. C. Boyden, Ingalls Kittredge, Jr., and Augustus Torrey." The remonstrants respectfully represent that the present advance of prices is a grievance which calls for redress; affirm that although the education necessary for the practice of a profession is attended

with expense, citizens in other callings use more than the same amount of capital with less income in proportion to the arduousness of the service; point out that there is no scarcity of medical talent, and delicately hint that it is not the fault of the citizens that the population is not sufficiently large to maintain all the doctors; sympathize with them on account of the dull times and conclude in the following strain: "It does not appear to us that the present advance of prices will yield a corresponding advance of income; it may be a loss on our part of advice rather than an increase of receipts on yours, not to say that the difficulty of collecting your bills will be increased probably by the increased number of those who will be unable fully to discharge them, although we are aware that your facilities for collecting are equal or superior to those of others." We are happy to add that the gentlemen referred to refused to comply with these demands, and that the fee has steadily increased to the present time.

The medical fees of to-day are certainly not exorbitant, and with the return of better times those deserving success will doubtless have no cause to complain of a lack of due appreciation of their services.

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#### MEDICAL NOTES.

— Dr. George Johnson, in *The Lancet* of December 16, 1876, reports several cases in which the curative influence of a milk diet has seemed to him to be remarkable. In some of these cases various remedies had been tried and proved to be unsuccessful; but a resort to an exclusive milk diet was very beneficial. The *modus operandi* of the milk, says the reporter, is sufficiently obvious. The urine is largely diluted with water, and rendered mild and unirritating by the digestible nature of the food; the bladder, therefore, being comparatively undisturbed by its contents, reverts to its normal condition, the inflammation by the mucous membrane subsides, and the morbid secretion of puriform mucus ceases. The milk may be taken cold or tepid, and not more than a pint at a time, lest a large mass of curd collect in the stomach. Some adults will take as much as a gallon in the twenty four hours. With some persons the milk is found to agree better after it has been boiled, and then taken either cold or tepid. If the milk be rich in cream, and the latter disagree, the cream may be partially removed by skimming; but the cream tends to obviate the constipation which is apt to result from an exclusive milk diet. Dr. Johnson suggests that a milk diet would be found very suitable for most patients during the first few days after the operation of lithotripsy, and that the same diet would help to prepare patients for the operation of lithotomy or lithotripsy.

— Dr. Orton states in *The British Medical Journal* of December 9, 1876, that he believes chloral hydrate causes congestion of the kidneys. The administration of the drug, therefore, cannot but be injurious to a patient who is already suffering from renal congestion. He reports two fatal cases in which chloral had been given in large doses, and post-mortem examination showed in both instances intense congestion of the kidneys.

— E. Hertzka reports a case of cure of piano-player's cramp in the *Petersburger medicinische-chirurgische Zeitung*, by the use of eight drops of tinctura gelsemii three times a day. The treatment lasted three weeks; hydrotherapeutic and electric methods of treatment had proved insufficient; the patient was a musician twenty-two years old.

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## BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. GEORGE W. GAY.

*Organic Stricture of Urethra; Retention; Perineal Section.* — Mr. L., aged sixty-three years, a gardener, had gonorrhœa thirty-five years ago, and has had symptoms of a stricture nearly ever since. He was in this hospital in 1875, and was relieved by gradual dilatation. He entered the second time September, 1876, unable to pass his urine except by drops. In twenty-four hours he had complete retention. A distinct tumor in the hypogastrium extended four inches above the pubes, and palpation upon this body was plainly felt by a finger in the rectum.

A small aspirator needle was thrust into the tumor an inch above the pubes, and again two inches above without obtaining fluid. The bladder was then punctured per rectum with a long, curved trocar, and four ounces of dark-colored, fetid urine were drawn with complete relief to the patient. The canula was fastened into the bladder.

On the following day (September 3) the patient was etherized, and, a grooved probe having been passed into the urethra nearly to the bulb, the seat of the principal stricture, the canal was opened at that point by an incision through the perinæum. The tissues were greatly disorganized, and the membranous urethra was found ruptured. The anterior portion of the canal being very narrow and tortuous, it was freely divided with the urethrotome. After considerable trouble the orifice of the posterior portion of the urethra was found well forward toward the bulb, instead of deeper toward the prostate, where search is more apt to be made for it in these cases. An elastic catheter was carried along this canal at least four inches before reaching the bladder. It was retained two days, and afterwards the urine was allowed to flow as it would.

The canal was kept dilated as well as possible, and in a month half of the urine came from the meatus. At the end of three months the perineal wound was reduced to a sinus. A bougie (No. 8 French) with a leaden stylet was passed through the entire canal with little difficulty. The character of the urine had improved, and it could be retained about two hours. The general condition of the patient was also very much better than when he entered the hospital.

This patient is undoubtedly incurable. In view of this fact, and considering his circumstances, the extensive disease of his urinary organs, and the strong tendency of the strictures to contract, the question arises whether he would not be more comfortable during the remainder of his life, were the perineal sinus allowed to remain open. Cock reports a case of a man upon



whom he performed his operation for perineal section for an impermeable stricture, who passed his urine wholly from an opening in the perineum for twenty years with great comfort.

That our patient's bladder is contracted, the walls greatly thickened, and the mucous membrane more or less disorganized is evident from the facts that the punctures above the pubes failed to obtain fluid, that four ounces of urine distended the viscus to its utmost capacity, that a tumor still remained in the hypogastrium after the urine was drawn off, that the urine was greatly altered in its qualities and was tolerated but a short time in the bladder, and, finally, that the disease has existed for so many years.

*Compound Fracture of Olecranon; Recovery with Anchylosis.* — Case I. Mrs. M., aged forty years, fell down-stairs, while intoxicated, October 9, 1875. On entering the hospital a short time after the accident, she was found to have received a compound fracture of the right olecranon process. The line of fracture extended transversely across the centre of the process, and the fragment was displaced half an inch upwards. A small wound led down to the fracture, and synovial fluid escaped freely within twenty-four hours.

The arm was placed upon a splint in nearly the straight position, and cool applications were made to it for several days; while gradually recovering from the effects of her debauch, she was seized on the fifth day with convulsions of an epileptiform character. She took one hundred and twenty grains of bromide of potassium in divided doses in two hours, and the fits ceased for the time. They recurred, however, a few days later, and were treated in the same manner with the same results. She had no more while under our observation.

Free and extensive suppuration in and about the elbow-joint ensued, requiring incisions and much care to maintain a free drainage. At the end of a month, anticipating more or less anchylosis, an internal angular splint was applied to the limb, and the fore-arm gradually brought to a right angle. The patient made a good recovery in two months and a half. There was no motion of the elbow, but the wounds were healed.

Case II. Mrs. O., forty-six years old, cook, a large, heavy woman, fell down-stairs October 26, 1876. She entered the hospital one week afterwards, having a compound fracture of the olecranon process of the left ulna. The symptoms were crepitus, mobility, and circumscribed tenderness. There was also an open wound leading down to the point of fracture, and synovial fluid was being discharged from the joint. As there was very little displacement of the fragment with the fore-arm flexed nearly to a right angle, the limb was placed upon a splint in that position during the entire treatment. Considerable inflammation and suppuration followed the injury. Burrowing of pus required one or two incisions. She had a mild attack of erysipelas soon after her admission. She steadily improved, however, and in ten weeks the wound was healed. Some motion remained in the elbow-joint, which will probably increase to a certain extent in the future.

Considering the facts that a large joint was opened by direct violence, that the fractures were compound, and that the general condition of the patients was not very promising, the results in these two cases must be looked upon as fortunate.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JANUARY 27, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	441	21.29	27.46
Philadelphia	850,856	272	16.62	22.88
Brooklyn .	527,830	196	19.31	24.31
Chicago . .	420,000	170	21.05	20.41
Boston . .	363,940	111	15.85	23.39
Providence	103,000	33	16.66	18.34
Worcester .	52,977	18	17.67	22.00
Lowell . .	53,678	29	28.09	22.21
Cambridge	51,572	12	12.09	20.54
Fall River	50,370	15	15.48	22.04
Lawrence .	37,626			23.32
Lynn . .	33,524	14	20.49	21.37
Springfield.	32,976	9	14.19	19.69
Salem . .	26,739	11	21.39	23.57

Normal Death-Rate, 17 per 1000.

SUMMARY FOR JANUARY. — The general death-rate of the cities above named was comparatively low throughout the month; in most of the cases it was considerably less than their mean annual mortality rate.

The principal diseases prevailed in the several cities as follows: —

In New York, scarlatina and diphtheria were the most fatal of the zymotic group, but they were not extensively prevalent. Phthisis, pneumonia, and bronchitis were the chief causes of death.

In Philadelphia, phthisis, pneumonia, and typhoid fever headed the list. Diphtheria and croup had considerable fatality. Small-pox exceeded scarlatina.

In Brooklyn, the order of fatality stood as follows: phthisis, pneumonia, diphtheria (and croup), and scarlet fever.

In Chicago, scarlet fever headed the list, exceeding even the fatality of phthisis; diphtheria and croup were next; then phthisis and pneumonia.

In Boston, the relative order of the month was: phthisis, pneumonia, diphtheria, and scarlet fever. The month has been a period of health.

In Providence, the death-rate was in excess of the annual average, owing in part to the prevalence of croup and diphtheria. Toward the end of the month, however, these diseases declined in fatality.

In eight Massachusetts cities besides Boston, phthisis, diphtheria (and croup), pneumonia, and scarlatina have been the chief causes of mortality.

NORFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held in Bradley's Building, corner of Warren and Dudley streets, Roxbury, on Tuesday, February 13th, at eleven o'clock. Papers, communications, etc.: —

(1.) Robert Amory, M. D., Local Boards of Health and the Duties of the Medical Profession relating thereto.

(2.) James Waldo, M. D., Observations upon School Hygiene.

(3.) Clifton E. Wing, M. D., The Use of Uterine Supports.

(4.) Silas E. Gifford, M. D., Cases of Death Caused by Vaccination, with Remarks.

Members of other district societies are cordially invited to be present.

Lunch at 1.45, p. m.

ARTHUR H. NICHOLS, *Secretary*.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## VARICOCELE IN THE FEMALE.

BY THOMAS DWIGHT, M. D.,

*Late Professor of Anatomy in the Medical School of Maine.*

THAT the left side of the body is more liable to disease than the right is generally acknowledged; but it seems that the obscure pains and discomforts that haunt the pelvic region of the female have an exceptional preference for the left side. Professor Peaslee, in answer to a question at a meeting of the New York Obstetrical Society,<sup>1</sup> expressed the opinion that they might be due to the greater tendency to congestion on the left, owing to the fact that the left ovarian vein, like the left spermatic in the male, opens into the renal vein, while the right opens into the vena cava. This idea has doubtless occurred to others, but few appear to be aware of any direct anatomical evidence in support of it. Under these circumstances the following observation may be worthy of record:—

Last spring while watching the injection of the system of the vena cava inferior in the body of a woman past middle age, for my lecture on the vessels of the abdomen, I was surprised to find a large vein running up the left side of the vertebral column, which proved to be the ovarian vein. The injection was made by means of gradual pressure from the right common iliac vein, the left one being tied, as was also the vena cava at its upper end. The injection consequently traveled along this enlarged vein downwards from the renal vein in an opposite direction to the course of the blood. This ovarian vein was at least three quarters of the size of the renal vein at the point of entrance into the latter. Lower down it was smaller and was formed by two veins which united shortly after leaving the true pelvis. A remarkable plexus of dilated, varicose, anastomosing veins was found in the left broad ligament and over the left side of the uterus. This was formed by the ovarian vein and the uterine vein which had been injected through it and was much dilated. The various branches of the left internal iliac vein were very well injected, and the communication was so free that the common iliac vein was filled up to the ligature, and some of the injected mass was found in the external iliac. A small branch from the

<sup>1</sup> New York Obstetrical Journal, October, 1876.

uterine vein crossed the front of the uterus near the cervix and was lost in the right broad ligament. It is remarkable, considering the excellence of the injection on the left side, that this should have been the only pelvic vein by which the injection crossed the median line, and this would appear to throw some doubt on the remark of Cruveilhier, that the pelvic plexuses constitute a very important and large communication between the two sides of the body.<sup>1</sup> The right ovarian vein was very small and contained only one or two separate fragments of the injection. This description fails to give an adequate idea of the importance of the venous plexus in the folds of the left broad ligament. It is inconceivable that it should not have occasioned inconvenience during life.

This case might be considered an exceptional one, but I think that there is no *a priori* reason why varicocele should not be as frequent in one sex as in the other. In both, the vein (spermatic or ovarian) opens on the left into the renal vein, and in both it is liable to compression by a distended bowel; indeed, the latter condition would be found most often in women, owing to their greater tendency to constipation. The reasons why we are not familiar with it are that, owing to the internal position of the ovaries, an engorgement of their veins cannot be diagnosed by sight and touch, so that attention is not called to the fact; and that veins appear to be thought unworthy of serious study both by students and teachers. This is the more to be regretted, since if they were studied as carefully as the arteries there is little doubt that interesting and practical observations would be made.

I was inclined after considerable research to look on this observation as a new one, when my attention was called to a passage which I had overlooked in Riche's Anatomie Médico-Chirurgicale, which shows that he was aware of this appearance, and that the subject had been specially investigated by Dr. Devalz.<sup>2</sup> The following passage translated from Riche is of interest in this connection:<sup>3</sup> "I have found this plexus usually but slightly developed in young girls who had not menstruated, but on the contrary in those who have done so for several years, and especially in women who have had many children, it is increased in a marked degree which varies in different cases. The explanation of this peculiarity is to be found in the congestion of the uterus at each monthly period, which at a certain time forces a considerable amount of blood into the uterine and peri-uterine systems of veins. Repeated pregnancies have the same effect. Various other causes can favor the development of the utero-ovarian plexus, as, for instance, constipation, and this is no doubt the reason why I have always

<sup>1</sup> Anatomie descriptive, tome iii., p. 244, 1871.

<sup>2</sup> Thèse pour le doctorat. Paris, 1853.

<sup>3</sup> Third Edition, 1866, p. 817.

found it larger on the left than on the right, for the left utero-ovarian vein passes under the sigmoid flexure of the colon, which in women is almost always filled with feces and hinders the return of the circulation. The veins forming the utero-ovarian plexus are surrounded by the cellular tissue of the broad ligament, and their walls, which are but ill-supported, oppose only a feeble resistance to the almost direct pressure of the column of blood in the inferior vena cava; this is no doubt the reason that I have frequently found them dilated and varicose, sometimes even forming at the sides of the uterus a true *varicocele*, which has the closest analogy to the tumor of that name observed in the male." It is worthy of notice that Richet does not appear to have seen, or at least does not allude to any great enlargement of the trunk of the left ovarian vein after it has left the pelvis, as in the case described at the beginning of this article, and that he is apparently inclined to ascribe the dilatation rather to pressure by the bowel than to the opening of the left vein into the renal. Cruveilhier<sup>1</sup> alludes to the fact that the veins of the round ligament may become varicose, especially at the external abdominal ring, and may closely resemble a hernia.

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## ANTISEPTIC SURGERY AT THE BOSTON CITY HOSPITAL.

BY GEORGE W. GAY, M. D.,

*One of the Visiting Surgeons.*

CASE I. *Abscess of Knee.* — Mrs. McG. was admitted to this hospital September 30, 1876, with a moderate attack of phlegmasia dolens of three weeks' duration. She improved for a time, and then a circumscribed induration about the left knee developed. On November 14th she was etherized, and the presence of pus was demonstrated by the aspirator. The leg having been thoroughly bathed in the hospital solution of carbolic acid (one part to forty), the abscess was opened under the carbolic spray by two free incisions, and its cavity was thoroughly washed out with the carbolic solution. Between one and two ounces of pus were evacuated. The wounds were dressed by Lister's method, that is, with the antiseptic gauze, oil silk protective, and mackintosh cloth.

The abscess was washed out and the dressing reapplied under the spray every day or every other day, according to the amount of the discharge, for a fortnight. The spray was then omitted, but the rest of the treatment was continued for nearly two weeks longer, when the wounds were superficial and nearly healed. During all this time the patient was very comfortable. The flow of pus was moderate and entirely devoid of its usual odor. I doubt if the abscess healed any sooner

<sup>1</sup> Anatomie descriptive, tome iii., p. 469.

under this treatment than it would have done under that usually pursued in such cases.

CASE II. *Amputation of Toe.* — T. H., aged sixty-two years, shoemaker, desired to have the second toe of his left foot amputated for chronic disease commencing in an inflamed corn. We removed the toe under the carbolic spray on November 17, 1876. The vessels were tied with fine, antiseptic catgut, which was cut short. One suture of the same material was put in at the upper angle of the wound. The wound was then dressed with the gauze, etc., as in the above case. The dressing was changed the first and second days after the operation, and then the intervals increased from two to five days till December 4th, when, the wound being a mere line, oxide of zinc ointment was substituted for the antiseptic dressing. There was no suppuration, nor pain, nor swelling of the foot, so common after these operations, nor constitutional disturbance throughout the entire treatment.

CASE III. *Amputation of Leg; Antiseptic Method; Recovery.* — N. P., Italian, aged twenty, stone-cutter, entered the hospital November 3, 1876. He had a compound, comminuted fracture of the left tibia and fibula at the middle third, caused by a derrick falling upon him a short time before. Strenuous efforts were made to save the limb, but the fragments became necrosed, pus began to burrow, and the health to fail.

November 28th. Patient etherized, and Esmarch's bandage applied. The leg having been thoroughly cleansed with the carbolic solution, it was amputated by us at the upper third, by the antero-posterior skin flap method. The vessels were successfully secured by torsion. The flaps were accurately adjusted and secured in their places by carbolized catgut sutures, an opening for discharges being left at each angle of the wound. The entire operation was done under a powerful jet of carbolic spray, and the stump was dressed with the antiseptic gauze, etc.

The patient did exceedingly well after the operation. There were no complications whatever. The dressings were changed under the spray every day for nine days, after which time they were allowed to remain from two to five days. Five days after the operation there was moderate suppuration, but the stump was free from odor and pain. At the end of a fortnight the flaps were well united, there being left only a small granulating surface at each angle where they were not closed. The patient was practically well in about three weeks.

CASE IV. *Amputation at the Knee-Joint for Compound, Comminuted Fracture of the Leg; Torsion; Antiseptic Dressings; Death from Exhaustion in Six Days.* — Thomas O'G., aged sixty-seven years, blacksmith, had his right leg crushed off by the steam-cars in the evening of November 29, 1876. When brought to the hospital, about an hour after receiving the injury, he was suffering considerable shock. Pulse 40; res-

piration slow; temperature below normal and extremities cold. He was given a hypodermic injection of one eighth of a grain of morphia, a little hot brandy and water by the rectum, and his body was surrounded by heaters. In two hours and a half he had rallied so that his pulse was 60, of fair strength, the extremities were warm, and he was pretty quiet.

A little ether having been given, and a rubber cord tied tightly around the thigh just above the knee, we amputated the leg at the knee-joint, leaving an anterior skin flap two or three inches long, and a posterior mixed flap five inches in length, the skin being an inch longer than the muscular portion. The vessels were closed by torsion without hemorrhage. The spray was not used during the operation, but before applying the antiseptic gauze the wound was thoroughly washed with the ordinary solution of carbolic acid used in this hospital (one part to forty). The flaps were secured in their place with carbolized catgut sutures, and the stump was dressed with the antiseptic gauze, etc. The limb was re-dressed every day under the spray, but well-marked suppuration was established on the fourth day, attended by a somewhat offensive odor. In spite of the utmost care in feeding and stimulating the patient, he sank, and died from exhaustion on December 5th, six days after the operation.

The spray was not used in the above operation for the reason that it is troublesome at any time, and especially so at night, or while doing operations by an artificial light. And furthermore, I fail to see its absolute necessity in any operation. Cannot a stump be made as thoroughly aseptic, or even more so than a compound fracture, or any other deep and lacerated wound? More or less time must necessarily elapse before accidental wounds can receive antiseptic treatment. If it succeeds in these cases, as Mr. Lister claims that it does, then why need we take measures to free the wound caused by an operation from septic matters until we are ready to apply the dressings? It would seem that wounds of our own making might be as effectually deprived of septic matters as those received accidentally.

The gauze used in this hospital is simply a cheap muslin, commonly used to cover the under surface of poultices, which has been impregnated with Lister's mixture of carbolic acid (one part), resin (five parts), and paraffine (seven parts). It was applied in compresses of eight layers, with a sheet of gossamer rubber between the two outer ones. The object is to apply enough of the gauze to absorb all the discharges without allowing them to come in contact with the open air. We have never seen suppurating wounds so free from odor as they were under this dressing; and if they were ever offensive, it was our own fault in allowing the gauze to remain too long unchanged. The freer the discharge, the oftener must the dressing be changed. In am-

putations it generally requires renewal in twelve hours, unless more of the gauze is used than above mentioned. The rule is to dress the wound at least as often as any of the discharge appears at the edge of the gauze. In our estimation this prepared gauze is a most admirable dressing for all suppurating wounds, where its application is practicable, throwing aside the remainder of the antiseptic method. We have used carbolized catgut for sutures too little to have formed an opinion about it, but we have not the slightest doubt as to its value in securing vessels too small or otherwise not suitable for torsion. It has answered the purpose admirably in a considerable number of cases in which we have used it, such as amputations of the breast, etc. The ligatures are cut short, the wound is closed, and thus far no hemorrhage has ever recurred, nor have we ever seen the ligature afterward. In a successful case of ovariectomy we applied a catgut ligature the size of the largest string of a violin to a portion of the broad ligament, and left it in the peritoneal cavity with no ill consequences. It was never again seen.

Although we have as yet failed to have such good results from the use of the antiseptic treatment as is claimed for it by Mr. Lister and his followers, we think it deserves a thorough trial, not only on account of the great advantages claimed for it, but also on account of the steadily increasing testimony in its favor. One of the principal objections to its use is the spray, which takes time and work, and is, moreover, very disagreeable to the surgeon. If that could be dispensed with the method would be simple, and could be readily used in private as well as in hospital practice. Any method of treatment, however, which will diminish or prevent suppuration, erysipelas, cellulitis, etc., is worthy of serious consideration, however troublesome it may be.



## SUDDEN DEATH FROM EMBOLISM.

BY C. L. SQUIRE, M. D., ELMIRA, NEW YORK.

On Friday, the 19th of January, my father, Dr. T. H. Squire, was called to see D. P., aged seventy years. His illness was acute in character, commencing with a chill and pain in the right side in the region of the gall-bladder. Nausea and vomiting occurred, accompanied by other febrile symptoms. The attack proved to be a mild hepatitis, and after a continued attendance of eight days the patient was discharged, convalescent and nearly well. This was on Saturday, the 27th. On the following day, Sunday the 28th, at 8.30 p. m. a messenger came in haste, saying that the patient was taken suddenly worse, and the family were greatly alarmed. My father reached the bedside in a few minutes, and found the patient in a state of collapse, breathing with great difficulty, with no pulse at the wrist, and a general coldness of the surface.



He was rational and too weak to help himself, but by the aid of his attendants he was continually shifting his position, sometimes lying for a moment on his right side, and then urgently desiring to be placed in the erect posture, which, giving no relief, was quickly abandoned for the horizontal or semi-horizontal position, on the right side. The struggle for respiration was distressing to witness. Hartshorn, camphor, whiskey, external warmth, friction, fanning, etc., were of no avail. Death took place at half past nine, scarcely more than one hour from the first alarming symptom.

*Autopsy.* eighteen hours after death. Drs. W. C. Wey, T. H. Squire, and the writer were present. The body was well nourished. Adipose tissue of nearly two inches in thickness was found in the abdominal wall; there were evidences of recent inflammation at the lower edge of the liver and in the neighborhood of the gall-bladder; the latter was quite firmly adherent to the omentum by recent false membrane. There was nothing else worthy of note in the abdominal cavity. Both lungs were free from adhesions, soft, and spongy. No fluid was found in the pleural cavities. The pericardium contained an ounce or two of serum. The heart was natural in size, the right auricle being greatly distended. The ascending and descending venæ cavæ were also full of fluid blood. This auricle was freely laid open, when nearly a pint of dark fluid blood was removed by means of a large sponge. The incision was continued through the right ventricle and along the wall of the pulmonary artery, the sponge being used to keep the parts dry. When the region of the bifurcation was brought into view, the right pulmonary artery was found to be distended and completely plugged by a dark clot. The left pulmonary artery was partly filled by a clot of the same character. When drawn out from its place the clot from the right artery proved to be from two to three inches in length, and about the size of one's finger. It was not very firm in texture, rather darker on the interior than on the surface, and apparently more firm at the cardiac than at the pulmonary extremity. The clot from the left artery was similar in character, but much smaller in dimensions. Besides these evidences of thrombus there was no other abnormal condition in the thorax. The heart itself was free from disease.

To revert to the patient's condition before the advent of these sudden and dangerous symptoms, it may be said that he sat at the table with his family at their regular meals on Sunday, and spent much of the day in cheerful conversation with near relatives and friends, and was intending to show himself upon the street and at his place of business on Monday. Just before the attack, his room becoming too warm, he went down-stairs and opened the door of the furnace, returning again and taking the recumbent position upon a sofa. Possibly this exertion had something to do with the production of the embolism.

## CASES OF TYPHOID FEVER DEPENDENT UPON CONTAMINATED DRINKING-WATER.

BY L. WOODS M. D., PITTSFORD, VT.

THE following is a brief history of eleven cases of typhoid fever which I attended in the autumn of 1875. These cases are interesting, first, because with two exceptions they occurred among the members of a single school of thirty children, twenty of whom were attacked. Second, because the epidemic was distinctly traced to sewage poisoning, the source of the infection being the drinking-water used by the school. This water was drawn from a well twenty feet deep, dug the preceding summer, within five feet of the rear of an old house and within fifteen feet of the back door where slops have been thrown out for more than fifty years. Within five feet of the well runs a board sink-drain liable to choke up and overflow. In this house lived a family of eleven persons, nine of whom had typhoid fever, but only three of these were under my care. Of the ten scholars who escaped I have positive information that three of them did not drink of the contaminated water, a specimen of which, examined microscopically and chemically, presented evidence of the presence of organic matter, including fibres of cotton, probably from dish-cloths, and showed upon its surface and the sides of a glass which contained it a greasy scum. Third, because the brothers and sisters of these patients who did not attend the school, nor drink the water in question, escaped the infection, as did their parents.

Four of the cases were males; seven, females. Average age, ten and a half; youngest, six; oldest, nineteen and a half. Six of the cases commenced with chills. Eight complained of headache and backache, and one of general muscular soreness. Two had epistaxis. One had ptosis of the left eyelid, followed in three days by otorrhœa on the left side. Five had bronchial symptoms, and four pneumonia. One, a male, complained of globus hystericus. Rose spots were noticed in three cases only. Abdominal symptoms, such as tympanites, gurgling, and tenderness of abdomen, were well marked in nine cases. Six had diarrhœa. In five there was slight delirium. Nausea occurred in two cases, in one of which it was continuous throughout. In two, who were consins, the eyelids were observed to be œdematous.

The highest temperature was 109° F., fifteen minutes before death; at the time of death it fell to 108.5° F. In six cases it was 104° F. or over. The pulse rose to 120 or over in every case. In seven it was over 130; in five, 150; in one, 180; and in one, 185. The last two cases were fatal; in one it rose till death, and in the other it fell during the two days preceding death from 185 to 150. The highest respiration was 56. In ten cases it rose to 30; in six to 35; and in four to 40.

One had dysenteric discharges, with tenesmus, and vomited matter like verdigris twice. She recovered.

Two of the cases were fatal from intercurrent pneumonia; the rest recovered. Beside the eleven cases above mentioned, two others appear to have been aborted by an emetic of ipecac, exhibited at the onset of the attack. I made no record of the fourteenth case, an irritable child two and a half years old. These children, with one exception, were previously healthy. One of the fatal cases was convalescent from the fever and had a relapse.

*Treatment.* — Nourishing food, stimulants, and quinine; ipecac emetics in four cases; mild expectorants and astringents for bronchial irritations and diarrhœa; turpentine stupes to the abdomen for tympany; Dover's powder and bromide of potassium *pro re natâ*. The acid treatment recommended by Chambers was perseveringly employed in all.

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## RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.

BY W. L. RICHARDSON, M. D.

### OBSTETRICS.

*Obstetrical Aspect of Idiocy.*<sup>1</sup> — Dr. J. Langdon Down recently read a most interesting paper on this subject before the Obstetrical Society of London, in which were recorded the results of his observations, which extended over eighteen years and included more than two thousand cases. Primogeniture seemed to play an important part, no less than twenty-four per cent. of all the idiot children observed being primiparous. He attributes this fact largely to the exalted emotional life of the mother. The chief factor, however, was thought to be the increased difficulty in parturition observed in primiparæ. In no less than twenty per cent. suspended animation occurred, and apparently excited a great influence in the production of idiocy. As regards the injurious effect of instruments, Dr. Down found that in only three per cent. of the cases forceps had been employed. A prolonged labor was far more dangerous to the life prospects of the child than a judicious and timely application of the forceps. Two per cent. only of the last thousand cases were twins. A very potential cause in the production of idiocy was the physical health of the mother during the gestation. Prolonged sickness, fright, intense anxiety, and great emotional excitement were all powerful factors in producing idiocy. No facts could be ascertained as to the effect produced by ergot in relation to this subject. More than twice as many male idiots as female were found. This fact is due probably to the larger size of the cranium, which gives rise to a prolonged or difficult parturition, a continued pressure, and suspended animation,

<sup>1</sup> British Medical Journal, December 23, 1876.

as well as to the well-known greater tendency to infantile convulsions among male children. The diagnosis and prognosis of idiocy were then entered into, and here the writer distinguished developmental cases from those of accidental origin. In all cases a congenital or developmental idiocy was far more amenable to training than a post-congenital affection, inasmuch as an ill-developed brain was more hopeful to deal with than a damaged one. The prognosis was in all cases inversely as the child was of pleasing personal appearance.

*Development of the True Corpus Luteum.* — Professor Mayrhofer, of Vienna, in a series of papers recently published,<sup>1</sup> contends that the so-called true corpus luteum of pregnancy disappears in the same manner as the so-called false corpus luteum of menstruation, and is replaced by another after a short interval. The doctrine, which was for a long time the accepted one, that it has a duration of from nine to twelve months he considers to be false. In support of his views the author cites cases which have been reported by Luschka, Kussmaul, Tobege, and Gustav Braun. All of these observers have recorded cases in which death has followed the rupture of a tubal fœtation of from seven to twelve weeks' duration, and in which the corpus luteum communicated directly with the peritoneal cavity by a non-cicatrized opening. The description of these corpora lutea exactly corresponded with the account given by Dr. Wm. T. Benham of a true corpus luteum found in the body of a young girl who died while menstruating.

Professor Mayrhofer claims that there can be no question that fresh corpora lutea are formed from time to time during the first three months of pregnancy, and that these successive formations may and probably do continue through the whole period of gestation. His own opinion is that they are formed every month during pregnancy, and have a duration no longer than that of the corpus luteum of menstruation. The writer lays great stress upon the fact that there are many cases on record of tubal pregnancy, or of pregnancy occurring in one horn of an irregularly developed uterus, in which the so-called corpus luteum of pregnancy has been found on the side opposite to that in which the impregnation has taken place. Unless, therefore, we imagine that an ovum frequently migrates across the peritoneal cavity, we must give up the theory, until recently unchallenged, that the developed corpus luteum indicates the ovary which produced the impregnated ovum.

*Placenta Prævia.* — Dr. R. Davis,<sup>2</sup> of Wilkesbarre, Pa., claims that more lives, both of mothers and children, would be saved if every case of placenta prævia in which the head presents were conducted with a view to finally delivering by the head rather than by the feet. For years the usual treatment in all cases of placenta prævia, in which the pelvic

<sup>1</sup> Wiener medicinische Wochenschrift, 1876, Nos. 18 and 19.

<sup>2</sup> Address in Obstetrics, Transactions of State Medical Society of Pennsylvania, 1876.

extremity of the child did not present, was version. According to statistics over two thirds of all the children thus delivered are still-born. One third also of the mothers thus delivered die. The cause of death is, as a rule, hæmorrhage. The object sought, therefore, in every case of placenta prævia should be how best to stop this loss of blood. In certain cases spontaneous delivery is effected. The child in these cases is born first, the placenta being partially detached, the extent of the detachment varying according as the placental implantation approaches a central one. In cases in which the placenta is not centrally implanted there can be no question that, as the labor progresses, the weaker attachments of the placenta will yield first, and a lateral separation will take place on the side where the smaller portion of the placenta is attached.

As the proper treatment of placenta prævia, Dr. Davis proposes the following plan, which is a very material modification of Barnes's operation: "As soon as the os uteri will admit two or three fingers, pass the hand into the vagina. Ascertain by sweeping the finger around between the placenta and uterus (without disturbing their connections) on what side the separation of the placenta is most extensive. That will always be the side of the least extensive attachments. Introduce two or three fingers on that side up between the placenta and uterus until the border of the placenta, where the membranes begin, is reached, severing the attachments as you go, if any remain; then hook the fingers over the border and draw the placenta forcibly down and pack it closely to the other side. The membranes will, of course, come down with it, and will protrude through the open mouth of the womb. Rupture the membranes at once, and empty the womb of its waters as thoroughly as possible. The head, if it presents, and if pains are active, will now engage in the os, and will crowd the placenta to the side of the cervix on one side, and will block up the open mouths of the vessels upon the recent seat of the placenta on the other, *and the hæmorrhage will cease*. In every case in which I have resorted to this procedure, such has been the happy result, and I have been left free either to allow the labor to end naturally or to end it myself by the forceps."

By this method of treatment no more of the utero-placental attachments are severed than is absolutely necessary. The connections between the uterus and placenta on one side are undisturbed. All necessity for version is avoided, and the labor is a natural one. As compared with Barnes's operation it will be seen that the plan of Dr. Davis more effectually relieves the strain upon the placenta caused by the dilating os and the pressure from above. The overlying placenta is completely removed and no longer blocks the way, as may be the case after Barnes's operation has been performed.

Bearing in mind, therefore, the advantages of this new method of

treatment, Dr. Davis recommends the following as the best course to be pursued when dealing with a case of placenta prævia: "If active interference is called for in consequence of flooding before dilatation has begun, I would strive, by every means known to our art, to control the bleeding and hasten dilatation. Preferably, I would use for this purpose: first, Molesworth's dilators, preceded, if necessary, by a sponge-tent; second, Barnes's dilators; third, the tampon or colpenrynter; fourth, ergot, if the presentation is not transverse; fifth, evacuation of the liquor amnii. By a judicious and skillful use of these means I believe that fatal hæmorrhage, if the case be seen in time, may almost always be prevented until the os is dilated an inch and a half or two inches. Then, if the os be not covered by placenta, rupture the membranes, and, if the hæmorrhage does not then cease, apply the forceps after Dr. Eshleman's method. But if the os be covered by placenta, Dr. Eshleman's procedure must be preceded by the operation of lateral detachment, and drawing the placenta down to one side, as recommended in this paper. In a large proportion of cases, after the execution of this procedure, and giving ergot, kneading the abdomen, and applying the binder, bleeding will stop, and the case may be left to nature. If, however, the womb refuses to contract sufficiently to cause the head to tampon the os and stop the bleeding, an attempt should at once be made to apply the forceps; and after the blades of the instrument have been properly adjusted to the child's head, the accoucheur becomes master of the situation."

[The operation which Dr. Davis describes as a new method of dealing with cases of placenta prævia is the same as that taught by Professor Carl Braun in Vienna, at least ten years ago, and at the Harvard Medical School during the past four years. The writer of this report has treated two cases of placenta prævia in accordance with this method, and with successful results to both mother and children. Dr. Davis has, however, in his address given the first description of an operation which has not heretofore been alluded to in obstetrical writings. — REP.]

As a proof of the great value of this method of treating a dangerous complication of a case of labor, Dr. Davis gives the account of twenty-eight cases of placenta prævia in which his plan was followed. Of the twenty-eight mothers one died of post-partum hæmorrhage, one died of heart-clot induced by sitting up in bed an hour after a safe delivery by the forceps, and twenty-six recovered. Of the twenty-eight children twelve were born alive, while of the sixteen still-born at least four were non-viable. The condition as to viability in four of the cases also was unknown. In two the placenta was extracted several hours before delivery, and in one the brain had to be punctured. In the remaining five cases death resulted from the extensive detachment and the consequent hæmorrhage.

As regards the operation of version Dr. Davis thinks it should be reserved for two classes of cases: first, cases of transverse presentation of the child, provided that cephalic version cannot be easily performed by the bi-polar method; second, cases in which for some reason the blades of the forceps cannot be made to grasp the head within the cavity of the uterus.

In this connection it may be interesting to quote the results of nineteen cases of placenta prævia treated by Professor Carl Braun in Vienna, and just published by Dr. Bandl.<sup>1</sup> Of these cases fourteen were delivered by version. Seven of the children were still-born, and seven lived, while of the mothers ten recovered and four died. Five of the cases were left to nature. Of these two of the children were living, and three were still-born, one of the latter at least being non-viable (six months). All of the mothers recovered.

Dr. Thomas<sup>2</sup> advises that in all cases of placenta prævia, where it is possible, premature labor should be induced. In this way the labor is directly under control, and the danger of a sudden and unexpected hæmorrhage is avoided. The weakness resulting from repeated loss of blood is also prevented. The advantages to the child are equally great, since repeated hæmorrhages are as injurious to the child as to the mother. There can of course be no question that a healthy child born at eight months is as likely to live as a weak child born at full term. This method of treatment has guided Dr. Thomas in his own treatment, and he has lost but one patient. The cause of the death in this case was a post-partum hæmorrhage.

*Occlusion of the Vagina; Delivery.* — Dr. Chambaud<sup>3</sup> gives the account of a case in which he was called to see a young woman, aged twenty-six, when two months pregnant. She was in bed, with respiration hurried, and pulse 130. She complained of great pain in the loins, and the abdomen was tense and tender. Fifteen leeches were applied to the right iliac region. Great relief followed. Two weeks later there was a purulent discharge from the vagina with extensive ulceration of the os uteri. Fourteen applications of nitrate of silver were made, a week intervening between each application. At the end of this time it was found that the os uteri was completely closed by cicatricial tissue. After a consultation with Professor Depaul it was decided to leave the case until the termination of pregnancy. When the patient was about seven and a half months pregnant, labor set in. After waiting seventeen hours, an incision large enough to admit the extremity of the finger was made through the closed os, and the re-

<sup>1</sup> Ueber das Verhalten des Uterus und Cervix in der Schwangerschaft und während der Geburt. Dr. L. Bandl. Stuttgart. 1876.

<sup>2</sup> American Journal of Obstetrics, February, 1876.

<sup>3</sup> Archives de Tocologie, September, 1876.

maining tissue was broken down with the finger. Six hours later a premature female child was born, who died the next day. The patient made a good recovery.

*Uterine Thermometry.* — Dr. P. Marduel<sup>1</sup> gives the results of the experiments in uterine thermometry by Cohnstein, Fehling, Schlesinger, and Alexieff. In a gravid uterus the temperature is from  $0.27^{\circ}$  to  $0.54^{\circ}$  F. higher than in the vagina, the temperature of the vagina being higher than in the axilla. In a gravid uterus containing a dead child, the temperature is lower than that of the vagina. The temperature of the uterus is also raised in inflammations of the organ, such as perimetritis, endometritis, etc., etc. Alexieff took during labor the buccal and rectal temperatures of the fœtus, and found that they were from  $1.26^{\circ}$  to  $2.34^{\circ}$  F. in the rectum and from  $0.54^{\circ}$  to  $1.26^{\circ}$  F. in the mouth above that of the vagina.

*Conception without Menstruation.* — Dr. W. M. Turner<sup>2</sup> reports the case of a German woman, twenty-eight years of age, who had never menstruated nor experienced any of the frequent premonitory or accompanying symptoms of menstruation. Yet she had been married eleven years, and during that time had aborted twice, and had borne four children at full term.

(To be concluded.)

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

DECEMBER 30, 1876. Fifty-five members were present; the president, Dr. WILLIAMS, in the chair.

*Inebriety and its Cure.* — Dr. ALBERT DAY, at the request of members of the society, read a paper on this subject, which has already been published by the author. Dr. Day, after enumerating the various causes which lead to drunkenness, expressed the opinion, based upon an experience of seven thousand cases treated at the Washingtonian Home and elsewhere, that inebriety is a disease, not a crime, and should be treated accordingly by suitable moral and remedial measures.

Dr. BOWDITCH could not agree that it was necessary for every human being to avoid taking a glass or two of wine or of whisky and water from the fear of becoming a drunkard. He had known many persons who had been in the habit of using a moderate amount of wine with benefit during long lives. The report of the adjutant-general informs us that many of the worst subjects during the late war, through the discipline required in the army, afterward became good citizens. Dr. Bowditch agreed with Dr. Bucknill that it was a bad plan to coddle all the drunkards, since many of them were fit subjects for pun-

<sup>1</sup> *Lyon Médical*, October 29, 1876.

<sup>2</sup> *Philadelphia Medical Times*, January 6, 1877.



ishment; some were vicious drunkards, and others dipsomaniacs. Therefore the same plan of treatment will not do for all, and a medium course is probably advisable.

DR. ORDWAY thought that every case of simple delirium tremens could be cured by the stimulant method in a carefully restricted and modified form. The stimulants should be hot; the sudorific effect is often considerable. Dr. Ordway had treated sixty-seven cases of delirium tremens in his own practice, and had procured sleep in all of them, often within twenty-four hours.

DR. DAY stated that his personal views on the use of wine and the treatment of inebriates were not radical, but that his paper was written from his stand-point as the superintendent and physician of an inebriate asylum. He thought that there was nothing new in the stimulating treatment, and said that it was followed in his practice when occasion required, instancing the case of a patient who was brought to him in a helpless state of exhaustion from drunkenness, with constant vomiting and purging. Opium was administered: the vomiting soon ceased, but the patient was very feeble and cyanotic, with no pulse at the wrist. Brandy and capsicum with laudanum were given, and in a week he was pursuing his profession.

DR. LYMAN wished to take exception to the part of Dr. Day's paper referring to the supposed excessive drinking in the army during the late war as having made many habitual drunkards. During a very extensive experience as medical inspector in all parts of the country east of the Mississippi he could not remember cases of soldiers who became drunkards in the army who were not so before. He thought that the community were in error with regard to the amount of harm done by drink at the time of the war, and that more men were cured of their previous bad habits during their term of service than the number who became inebriates. Dr. Lyman remarked that the paper by Dr. John Ware, perhaps the best on the subject extant, had made a revolution in the treatment of delirium tremens; that the disease was self limited, and that most uncomplicated cases recover with simple treatment, bromide of potassium, chloral, etc. With regard to the habitual use of wine, Dr. Lyman thought it unquestionably beneficial, when taken in moderation, to persons of certain temperaments, and very harmful to many others. He regarded the use of stimulants in disease as often of great value, and thought that patients sometimes cared less for liquor on recovery than before, owing to the disagreeable associations. He had found hock wine a useful form of stimulant in the desquamating stage of scarlatina.

DR. DAY said that he had treated between five and six hundred cases of delirium tremens, and did not remember having lost a case which was not complicated with pneumonia or some cerebral or other trouble. He thought that the moderate use of wine might be of benefit to some persons in daily life.

DR. AYER said that his rule had been to avoid alcohol in the treatment of delirium tremens as far as possible, preferring to use opium, valerian, strong tea, coffee, etc. He thought it our duty to discuss the question of the use of stimulants very freely, and felt that he had no right to dispute a patient who told him that he was benefited by a glass or two of wine. The case of a patient was mentioned who had been in the habit of taking his eleven o'clock

and four o'clock dram daily since boyhood, and lived to the age of ninety-seven, as an instance of the possibility of long moderation. Dr. Ayer saw no reason for considering an ordinary case of intemperance the manifestation of a disease.

*Aortic Aneurism within the Pericardium.* — DR. E. CHENERY presented the heart, aorta, a kidney, and a section of the liver of a woman about fifty years old. She had been a free drinker, and there was general fatty degeneration. Some of the muscles of the face were identified with difficulty on account of the fatty changes in the fibres. The liver was pale and firm, and sections felt much like hard soap. The kidneys had a greasy feeling, and sections of the pyramids showed abundance of oil globules under the microscope, with granular degeneration of the epithelium. The brain was considerably firmer than that of a man which was examined at about the same time after death. In the aorta the endothelium and the muscular tissue were extensively replaced by calcareous deposits. About two inches from the semilunar valves the vessel had yielded under the blood pressure, and there was a somewhat elongated aneurism which had ruptured, causing sudden death. The pericardial sac was filled with blood. Rough, earthy deposits could be felt with the finger introduced at the point of rupture, both upward in the arch and downward in and about the valves. The abdominal aorta was decidedly more changed than the thoracic, and felt between the fingers as if the walls were lined with broken fragments of oyster shells. The sharp edges pierced the outer coat on crushing the vessel. Four inches above the bifurcation a mass of deposit projected into the current of circulation nearly a quarter of an inch, looking like the spiral end of a snail shell. Dr. Chenery remarked that this form of deposit in the large arteries follows fatty degeneration, while the deposit which is frequently found in the capillaries and in the smaller arteries is not preceded by fatty degeneration. The aneurism was small, as is usually the case when within the pericardium.

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### HEALTHY SKIN.<sup>1</sup>

THIS is the eighth edition of a book first published thirty-one years ago; one which has undoubtedly been the means of distributing a great amount of useful information concerning the nature and care of the skin among the English-reading people. As hitherto, it treats in a popular manner of the anatomy and functions of the skin and its glandular systems, and of the influence of diet, clothing, exercise, and bathing on its health. This portion of the book, with the exception of many fanciful and some erroneous views expressed in it, which seem inseparable from Mr. Wilson's writings, is wholly commendable.

The remaining part, that devoted to a treatise on the diseases of the skin, we cannot praise. It may communicate that little knowledge which is dangerous, and even that little may be wrong. For example, notice what the

<sup>1</sup> *Healthy Skin: A Popular Treatise on the Skin and Hair, their Preservation and Management.* By ERASMUS WILSON, Professor of Dermatology in the Royal College of Surgeons of England. Philadelphia: Lindsay and Blakiston. 1876. Pp. 311.

author says about ringworm: first, that it is closely allied to plica polonica, an affection which does not exist as a pathological process; second, after stating that he has "seen the desolating misery caused by ringworm," and that he would advise every precaution to prevent contagion, he says that he is "firmly of the opinion that the disease is not contagious." So, too, with regard to favus; after remarking that he knew a case of a boy with this disease who played with other children without their taking it, and after offering this as conclusive proof of its non-parasitic character, he exclaims: "And so it frequently happens that a little hard-headed, practical sense dissipates, like a ray of sun the morning's mist, the most dazzling scientific theories."

Certainly more dangerous opinions were never put forth, even in the medical literature of the daily or religious press.

### REPORT OF THE CITY BOARD OF HEALTH.<sup>1</sup>

THE Report of the City Board of Health for the year ending April 30, 1876, is a document of ninety-one printed pages, comprising, together with other matter, statements of work accomplished by the board, a small amount of statistical information relating to mortality, and a valuable paper on Infant Mortality by Dr. W. L. Richardson, which will be made the subject of a separate notice in our next number. A paper on diphtheria was to have been contributed by Dr. F. W. Draper, embodying the results of extensive investigations into the surroundings of such cases as had occurred in the city, but unfortunately the completion of this task was prevented by the illness of Dr. Draper.

One of the most important passages in the report relates to the registration of deaths. The statute upon this subject, quoted in the report, is as follows: "Any physician having attended a person during his last illness shall, when requested within fifteen days after the decease of such person, forthwith furnish for registration a certificate of the duration of the last sickness, the disease of which the person died, and the date of his decease, as nearly as he can state the same." This seems at first sight clear enough. Such, however, is the freedom of our institutions as to render the word "physician" quite meaningless. The statute might read, "Any person having attended," etc., without thereby becoming any more comprehensive in its scope than it now is. So very elastic, indeed, among us is the general conception of what constitutes a physician as to include individuals of both sexes who complacently ascribe death to such fantastic causes as the following: cancerum, canker and spasms, lack of vetallity, lack of villality, daeth barne, canker humer, swallowing, lung diess, canther of the bowels, scharlatena, chituses! One such person, who, being a female and having assumed the responsibility of attending a patient on his death-bed, would probably claim to be called a "lady physician," returned a certificate worded as follows: "This certifies that A beby boy died on the *born* day of Febberiy 1876. Cause of death: *Born*. Signed: M—<sup>her</sup> × R—<sup>mark</sup>." The

<sup>1</sup> *Fourth Annual Report of the Board of Health of the City of Boston.* 1876.

report, after remarking that the question who is a physician ought to be settled, goes on to say: "Is every person who holds himself or herself out as such, attending another in his last illness, a physician within the meaning of the statute? Are we to take the certificate of every *soi-disant* physician, and upon that alone give a permit for burial? Is he or she a physician who has no degree, no diploma, who has never studied medicine, who has little or no experience, who cannot spell the name of a disease so that it can be read or understood, and who cannot write his or her name at all, but who simply makes a mark?"

It is evident that the utility of statistics relating to mortality is strictly dependent upon the accuracy with which the causes of death are recognized and recorded by attending physicians, and that any collection of statistics which is adulterated, as it were, with a considerable proportion of such ridiculous data as have just been alluded to must yield more or less vitiated results. Such being the case, the best way, perhaps, of dealing with the statistical material collected by the Board of Health would be to separate the presumably accurate from the manifestly valueless returns. This could be easily accomplished by eliminating all certificates returned by individuals who do not belong to the Massachusetts Medical Society, such records being classed under the heading *cause of death unknown*. The remaining certificates, emanating from duly qualified physicians, could be dealt with in the usual manner, as constituting more or less trustworthy statistics.

The amount of statistical information contained in this report is inconsiderable. The city registrar, speaking of the reasons which led him to hesitate in the preparation of his last yearly report, said: "The establishment of the Board of Health, however, to which is properly confided all that relates to the sanitary affairs of the city, and the publication in their reports of the mortality statistics of the city, seemed to render a duplicate report by the city registrar superfluous." A similar consideration may have led the Board of Health to abstain from more elaborately working up the statistical material in its possession. This state of things rather reminds one of what takes place when two persons stand bowing before an open door, each refusing to take precedence of the other, and neither going through. Unless some agreement be arrived at concerning this matter between the Board of Health and the registrar, the vital statistics of the city are hardly likely to yield their full measure of utility.

The report contains a few valuable tables and some carefully executed and interesting charts. One of these, the third, which shows the weekly decedents of *native, foreign, mixed, and unknown parentage* throughout the year is particularly curious. In it we see a marked contrast between the courses followed by the native and by the foreign mortality: the former is comparatively uniform from month to month, without distinct maxima; the latter, on the contrary, shows very marked exacerbations in summer and in winter. The chart indicates distinctly that the summer and winter maxima observable in our yearly mortality are due almost wholly to the deaths which occur among the foreign elements of our population. The diseases which cause these maxima are, in summer, the diarrheas, and, in winter, diseases of the respiratory or-

gans. These are the principal affections concerned in the production of our excessive infant mortality, which is thus once more shown to prevail principally among our foreign inhabitants.

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#### HUTCHINSON'S CLINICAL PLATES.<sup>1</sup>

FASCICULUS V. contains the illustration of injuries to the head. In speaking of certain specimens the author says: "I do not, indeed, know of any class of cases by which we may more conveniently illustrate the chain of phenomena which make up what is known as pyæmia than those which we have now to consider. . . . I cannot conceive that any one familiar with the pathological facts respecting these cases can doubt that pyæmia proper is due to inflammation of the veins. . . . We have to witness in these cases over and over again inflammation of the bone; . . . next extension to the dura mater, . . . and lastly the formation of a thrombus in the longitudinal sinus. In every case in which pyæmia follows an injury to the skull these conditions are found, and they are not found in other cases. . . . If it were as easy to inspect the veins of the uterus after deaths from pyæmia after parturition, or those of the limbs after the like event after operation or compound fractures in all probability evidence of a character just as definite would be forthcoming." These extracts will serve to indicate the value of the present number.

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#### OPHTHALMIC AND OTIC MEMORANDA.<sup>2</sup>

THIS little book "aims to give a concise and correct outline of our present knowledge of ophthalmology and otology, and to serve as a kind of dictionary of these subjects." It appears to have been carefully compiled, and is much more accurate than is generally the case with works of the same size. The authors very properly say they "shall be sorry if it is ever used to acquire a *primary* knowledge of either of these sciences, or if it is trusted for *complete* directions as to the diagnosis and treatment of ophthalmic and aural diseases." If these suggestions are heeded, the book may prove of value, but we must confess to doubts whether such little compends are not used chiefly for the purpose of "cramming" and for the acquirement of knowledge which is superficial and temporary. The book is an excellent example of its class.

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#### CLELAND'S DISSECTIONS.<sup>3</sup>

THIS excellent little work differs from many others of its class by not being an abridged anatomy, but simply a guide to the student. For instance, the

<sup>1</sup> *Illustrations of Clinical Surgery, consisting of Plates, etc., with Descriptive Letterpress.* By JONATHAN HUTCHINSON, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1876.

<sup>2</sup> *Ophthalmic and Otic Memoranda.* By D. B. ST. JOHN ROOSA, M. D., and EDWARD T. ELY, M. D. New York: William Wood & Co. 1876. Pp. 264.

<sup>3</sup> *A Directory for the Dissection of the Human Body.* By JOHN CLELAND, M. D., F. R. S. Philadelphia: Henry C. Lea. 1877.

origin and insertion of a muscle are not given, but the student is told how best to expose them, and attention is called to their peculiarities. The arrangement is good, the descriptions clear, and the book is of convenient size. In many respects it reminds us of Dr. Hodges's *Practical Dissections*, and this we should say is the only dissector to which Professor Cleland's work will not be a dangerous rival.

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#### FOX'S ATLAS OF SKIN DISEASES.<sup>1</sup>

THIS work continues to appear promptly. Both the text and the plates, which now number forty, fully sustain the opinions expressed in our notice of the first issue (see *JOURNAL* of March 30, 1876).

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#### REFORM OF THE CORONER LAWS.

THE first formal step in the movement to reform the present laws relative to the appointment and practices of coroners may be said to have been made at the recent meeting of the council of the Massachusetts Medical Society, when the committee appointed for the purpose of inquiring into the expedience of any action upon the question presented their report. The committee find a general dissatisfaction with the present coroners' system existing not only in this country but in England, where the system is practically the same as our own, and that the lawyers are as little pleased with it as the doctors. This feeling is explained by the fact that the system is a remnant of past and obsolete usages, and is wholly unsuited to the needs of the present times; that the powers pertaining to the office of coroner are many, unrestricted, and dangerous, and that perversion of them is already notorious, the manner in which inquests are conducted being too frequently objectionable; that the number of coroners possible under the law is unlimited, and at present the appointments are far too numerous and easily obtained, many of those now holding office being totally unfit for the place, and the deeds of some being scandalous; that no redress is practicable, except through a very tedious process, "an address of both houses of the legislature to the governor," one too complicated ever to be resorted to; that the system is a very expensive one, "and even when an inquest is unexceptionably made, it is absolutely useless as an aid to justice, and, what is still worse, may in fact favor the escape of the guilty." Indeed, the committee think the present system has few if any redeeming qualities. The committee also find that "these defects involve the medical profession," inasmuch as many medical men hold the office of coroner, and thus share the discredit with those who claim to be members of the same profession, although not members of the Society, and who have disgraced the office.

The committee point out that in cases of sudden, unaccounted for, or unnatural death two separate and independent questions are to be considered, namely, "*What caused the death?*" and "*Who caused the death?*" it being the duty of the medical profession to inquire into and solve the former, the latter belonging to the magistrate and the courts. They therefore recommend a division of the

<sup>1</sup> *Atlas of Skin Diseases*. By TILBURY FOX, M. D., F. R. C. P. Philadelphia: Lindsay and Blakiston. Parts 6 to 10 inclusive.

coroner's duties ; " that the inspection of the body, the autopsy, and the inquiry into the cause of death should be given to the medical profession, while the necessity for a further inquest and its conduct, when decided upon, should be committed to the legal profession, with its detectives and courts ; and that each department should be separately held responsible for the proper performance of its own peculiar duties, and those only." The committee are in accord with the views expressed by Mr. Tyndale in his recent valuable article on this question, to which we have already called attention in these pages. Two or three medical officers or even less might replace the present army of these officials doing duty at present in Boston, a proportionate reduction in numbers being made throughout the State. To the courts might be left the work which they are obliged now to do over again *ab initio* after the coroner has finished his useless task. These officials should be selected from the best qualified and most eminent medical men, and should receive proper salaries, the office " to be held during good behavior," the incumbents being removed by the appointing power.

The report concluded by recommending the following resolution to be passed by the council : —

" *Resolved*, That a committee of five be appointed by the councillors of the Massachusetts Medical Society to coöperate with committees of other societies or associations and persons engaged in obtaining a reform in the laws pertaining to coroners, to go before the legislature, or other officials, if deemed by them necessary or advisable, to have a general charge of the matter in behalf of the Massachusetts Medical Society and the regular professors of medicine, and to report progress from time to time to the councillors."

The spirit in which the report was received may be gathered from the remarks of Dr. J. B. Bronson, of Attleborough. He fully indorsed the report of the committee. The subject, he thought, was ably canvassed and succinctly stated. It strikes the key-note of reform in our coroner system. It looks to a thorough revolution, and embodies principles which should be incorporated in an " act " better to subserve public justice, and in accord with the rights and highest interests of the entire public. He was satisfied that the public possess less knowledge concerning the importance and scope of this question than almost any other which bears as vitally upon their interests and is within the realm of legislation. The governor devoted a paragraph to this subject in his recent annual message, in which he recognized the importance of coroners' duties, and portrayed some of the defects of the present law and the abuses and dangers arising from the same source, in view of which a joint special committee of the legislature has been appointed to investigate the whole subject, and if deemed best will report to the legislature for adoption such an " act " as public justice and enlightened civilization demand at its hands. From conversation with some of the ablest members of the legislature Dr. Bronson felt assured that an " act " wisely drawn, reinforced by timely, judicious reasoning showing its necessity, could be passed by that body during the present session.

The resolution was, we are glad to say, unanimously adopted. With such emphatic indorsement from their colleagues, we trust that the new committee will not allow this movement to lag for want of energetic support ; that they will secure the preparation of a suitable bill, bring it promptly before the legislature, and sustain it vigorously. Now is the time to strike boldly for a new law.

## MEDICAL NOTES.

—Sir William Fergusson, Bart., the distinguished London surgeon and president of the Royal College of Physicians and Surgeons, and Sergeant Surgeon to the Queen, is dead. His loss will be regretted in this country as well as in Great Britain. He was sixty-nine years of age.

—The third annual meeting of the Alumni Association of the medical department of the University of Buffalo will be held in that city on Tuesday, February 20th, at ten o'clock A. M. in the college building. The session will be continued throughout the day, with an intermission at noon, and the exercises will consist of the regular transaction of the business of the association and the reading and discussion of papers. At the conclusion of the Commencement exercises in the evening, Professor Frank H. Hamilton will deliver the address to the alumni. A supper will be served at the conclusion of the exercises in the hall.

—The *Saint Petersburger medicinische Wochenschrift* says that on the 22d of October there was an admission to a female medical course at the Nicolai Military Hospital. Of one hundred and forty-seven applicants twenty-four were admitted on certificate of a preceptor without examination, and eighty after examination of qualifications. A few others could not be accepted on account of lack of space, though they were duly qualified. They were allowed to attend lectures temporarily until the minister of war could arrange for them.

—We are informed that a case of hydrophobia which terminated fatally in a few days has recently occurred in Hancock, New Hampshire, under the care of Dr. H. H. Smith. A fatal case has also been seen by Dr. Beach, in Somerville, within a few weeks. The rarity of this disease in New England gives special interest to these cases. We hope to be able to present details of them to our readers shortly.

—M. Boutin, in a communication to the Paris Academy of Sciences, gives an account of researches made by him to ascertain the reason why some American vine stocks resist the attacks of the *Phylloxera vastatrix* while others succumb. He has discovered in the resistant stocks a certain resinoid principle, in proportion about a third greater than that in which it occurs in American non-resistant stocks, and in about double the proportion found in French stocks. He considers it essential to resistance that the resinoid principle should be present in the proportion of eight per cent. for the entire root, and fourteen to fifteen per cent. in the bark alone. He says that the incision made by the insect, while producing nodosities in the root, is cicatrized by the exudation of the resinous product, and this prevents the escape or loss of the nutritive sap of the plant. In non-resistant stocks, on the other hand, there is no cicatrization, as the resinoid principle is not in sufficient quantity to produce this effect.

—A children's hospital, the first established in Spain, has just been opened in Madrid.

—In Cetinje, in Montenegro, typhus has appeared in an epidemic form, for which it is as yet impossible to arrange adequate hospital accommodation. In Warsaw, also, there is a very severe epidemic of typhus, to which many



persons have fallen victims. The introduction of the epidemic is attributed to the return of Russian volunteers from Servia.

— Ten medical students took part in a political tumult in St. Petersburg on Nicholas Day, in which the popular cry was for Servia's welfare. Flags were displayed with such mottoes as "Land and Freedom," "A Free Press," etc. The character of the students' demonstration is described as nihilistic.

— The Charité of Berlin celebrated its one hundred and fiftieth birthday as a hospital on the 4th of January. It was originally established as a pest-house, but at a time when there was no immediate necessity for such a building in that quarter of the town. It was first occupied as an infirmary for citizens and soldiers, and in 1727 was formally opened as a hospital by King Friedrich Wilhelm I., and named the Charité. By him it was designated as an educational institution in medicine, as are most hospitals to-day in Germany. At this time no systematic university instruction was given in Berlin, the university having been founded as late as 1810 by Friedrich Wilhelm III., directly after Napoleon's war. The Charité received large donations from the king, and later from his son, Frederick the Great. In 1785, 1786, 1789, and 1797 large additions were made to the original single building. In 1830 it came under the direction of the Bureau of Education, known as the *Cultusministerium*. Since 1850 its immediate control has been by a board consisting of a physician of eminence and an inspector, the idea being to represent the educational party and the people, — the two elements whose interests are centred in the Charité. The present directors are General Physician Mehllhausen and Privy Government Councillor Spinola. Under these are fourteen directing physicians, most of whom are professors *ordinarius* in the medical faculty. In service are nine staff physicians of the army, twelve civil assistant physicians, twenty-six under physicians (*unteraerzte*), four apothecaries, three midwives, about three hundred nurses and attendants, besides a large posse of officials. The Charité has a capacity of fifteen hundred beds, with an outfit of two hundred more.

— We find in *La Nazione*, a leading Florentine journal, under date of January 1, 1877, an article entitled *Una Curiosa Scoperta*, detailing at length the interesting experiments upon the pulse made some years since by Dr. J. B. Upham, of this city, before the American Association for the Advancement of Science, at Salem. These experiments were extensively noticed at the time by the medical press of this country. They consisted in part, it will be remembered, of the transmission of the pulse beats over the electric wire from the City Hospital in Boston to the audience room at Salem. In this way the various characteristics of the pulse were made both visible and audible with such exactness as in some cases to allow of the diagnosis of the disease.

The article with the above heading in the Italian journal is a translation from one that appeared originally in the French newspaper *La Liberté*, which properly accredits the experiments to Dr. Upham, but speaks of them as though they had been recently performed, and states that they are about to be repeated before the Academy of Medicine in Paris.

— Brookes recommends common salt as a preventive in intermittent fever (*Deutsches Zeitschrift für praktische Heilkunde*). Pure salt is to be heated in a

pan till it has become of a brown color. For an adult at least a teaspoonful of this is to be dissolved in a glass of hot water and taken while it is lukewarm. In the tertian and quartan types it is to be taken fasting in the morning which follows the day of the fever, in the quotidian type one or two hours after the occurrence of the fever, also on an empty stomach. If the thirst after taking the dose is unendurable, a little water is allowable, otherwise for the next forty-eight hours a most careful diet must be observed. When hunger commences only a little chicken or weak meat broth is allowed. Brokes has used this simple method in the marshy low countries of Hungary and in the tropical parts of America, and has proved it to be "certain." A single trial "was enough;" rarely was a second one requisite.

— The following is a brief abstract of the diary of an English surgeon traveling on the Nile:—

"It soon got noised abroad that a hakim (doctor) was aboard, and the halt and the blind literally flocked for help, the very poor coming empty-handed, those better off bringing sheep, meat, bread, fruit, vegetables, trinkets, whilst the well-to-do brought money, gold finger rings and nose rings, all of the unalloyed metal, for these are the gold coin of the Soudan. One woman, a widow-farmer, owning many slaves—though it is commonly supposed that slavery is non-existent in Egypt—applied (just in time for amputation) with a fractured fore-arm, the bones protruding, and gangrene creeping beyond the elbow. Two men with stone were lithotomized, and Dr. Lowe performed three operations for cataract. He found excellent assistants in two engineers of the expedition, one of whom chloroformed the patients, and the other, having lived in a doctorless district in India, where he conducted an extensive amateur practice, held the staff in the lithotomy operations, and otherwise rendered efficient assistance. Dr. Lowe was constrained to depart the day after these operations, leaving them to chance, though confident they would do well, owing to the surprising power of recovery from surgical injury manifested by the Arab constitution. Three months afterward he learnt that, excepting one case of cataract with rotten cornea, all these patients made good recoveries.

"As the expedition could stay only a few hours at each town, Dr. Lowe found it impossible to attend to half the cases, and he was obliged reluctantly to deny assistance to a large number of miserable sufferers. It was piteous to be forced to turn a deaf ear to their supplications. Some pursued Dr. Lowe in boats, others chased him on camels along the river-side for two days; and one poor old man was carried for three days on camelback in the vain hope of obtaining surgical help."

The statement made by a writer in the *British Medical Journal* that a young surgeon traveling for his health in Egypt could earn sufficient money to pay for his trip is undoubtedly correct, as any traveler on the Nile could testify.

— Dr. Murphy, formerly professor of midwifery at the University College, London, and author of a well-known work on obstetrics, has recently died at the age of seventy-four years.

— Dr. A. H. Beaton in *The Canada Lancet* of December, 1876, reports the following remarkable case in obstetrics. He was called to a woman in Sep-

tember, 1873, whom, after a somewhat tedious labor, he delivered with the forceps. The child was born with a tumor, nearly as large as its head, in the umbilical cord about two inches from the abdomen. Otherwise the cord was normal as to length and size. On one side of the tumor was a patch of skin two inches in diameter, of the same color and appearance as the body of the child, the rest of it being membrane resembling the cord and, indeed, being a portion of it. At first he was at a loss to know what to do, but concluded, as he had very imperfect light, it being night, to cut on the outer side of the tumor, and make a more careful examination in the morning. The next day he had no difficulty in coming to the conclusion that the tumor contained the intestines of the child, and immediately attempted their replacement by manipulation.

A half hour's trial satisfied him that he could not succeed in this way, and he then concluded to open the sac. He made an incision three inches long and the intestines came rolling out so fast that he soon had both his hands filled with them. Every inch of the small intestines had been confined in the tumor, and from its construction and the presence of the patch of natural skin, Dr. Beaton had no doubt they formed and matured there. The process of returning or transmitting them to the abdomen was necessarily slow, as the opening was very small, and they were considerably distended with gas. The inconvenience of the presence of gas became greater as the work proceeded, and at length he had to resort to pricking the bowel in order to allow it to escape. The pricking was continued till the whole had been returned. The cord was then tied at the proper place, the abnormal appendage cut off, a pad adjusted, and the child dressed. A teaspoonful of castor-oil was ordered, and on his return four hours afterwards he learned that it had "operated nicely." The child thrived as well as any child could, and is now a fine healthy little fellow.

— In a clinical lecture on *The Dressing of Wounds*, by Richard Davy, F. R. C. S., published in *The British Medical Journal* for December 30, 1876, the author reports his experience in the treatment of wounds by the open method. During the past two years he has treated at the Westminster Hospital thirty-three cases of excision and amputation, all by the open method, and no death has resulted. The cases included excisions of the hip, knee, shoulder, and elbow, amputations of the thigh and leg, besides operations of a less degree of severity.

As compared with the antiseptic system, he claims that the open method, as far as his experience goes, has the following advantages:—

"(1.) Our results are equally as good as by the antiseptic system, no death having occurred from pyæmia or exhaustive discharge.

"(2.) Trouble and expense are reduced to a minimum.

"(3.) The fullest opportunity is granted to students for clinical observation; on the antiseptic system the wound is but seldom and briefly exposed.

"(4.) All nervous apprehension from the indiscreet removal of, and the painful repetition of, dressings is done away with.

"(5.) The process of healing by scabbing is solicited.

"(6.) Nature is duly accredited with her share in the performance, and a host of lotions and ointments are dismissed as plagiarists."

— Our British exchanges call attention to a recent article in the *Pall Mall Gazette* entitled English Patients and French Doctors. The article refers to a new bill which is about to become a law, and “which will,” says the *Gazette*, “in its effect prove, and is really by its professional promoters intended to prove, prohibitive of the practice of medicine in France by British or foreign physicians, however eminent or capable.” The bill obliges every foreigner who desires to practice in France to undergo an examination or examinations in order to convince the French authorities that he really has the medical knowledge which his foreign diplomas assert that he possesses.

The *Medical Times and Gazette* is not disposed to “take such a pessimist view of the situation as does the writer of the article in the *Pall Mall Gazette*,” and it does not consider that the supply of English doctors for English patients is likely to be arrested by the action of the French government. “There are prudential reasons why the idea of absolutely excluding foreign, and especially English and German, physicians from France could not long be entertained.” The English more than any other nation have rendered popular the health resorts in the south of France, which owe a large part of their existence to the English invalids and their friends who flock to them. Patients will go where their own medical men can look after them.



## CASES OF ICTERUS NEONATORUM.

MESSRS. EDITORS. — Hoping to elicit something more than I find in the books relative to the pathology and treatment of this affection, I send to the JOURNAL a report of five fatal cases of pernicious icterus which took place in the same family, a series of calamities to which I cannot find a parallel in medical literature.

The mother of the children to whom this extraordinary fatality occurred is apparently a perfectly healthy blonde, aged about thirty-eight, who has no history of jaundice or any discoverable disease of the liver. I feel confident that neither she nor her husband has ever had syphilis. I obtained from her the following facts: She had been healthy during her seven previous terms of gestation, with the exception of intensely distressing pruritus vulvæ. This had tormented her throughout each pregnancy, without relief, though she had been attended by various skillful physicians. She has two living children who are remarkably healthy and strong. All the others died on the third day “as yellow as gold,” except one who lived to the fourteenth day, when it died as yellow as the rest, having been stupid for two days previously. Mrs. C. is a truthful woman, and her account is confirmed in every particular by others who saw her children and know the circumstances.

Considering this succession of deaths from an uncommon and obscure cause so remarkable I kept the mother in view, and in about five months was called to her for the relief of the pruritus, and found her pregnant again. She had lost much sleep from the intolerable itching, but the frequent application of a solution of carbolic acid, one part to ten of water, relieved her entirely of this annoyance whenever it recurred. She remained well and actively engaged in

household duties till January 2, 1877, when I was called to her in labor. This was rapid, easy, and in every way natural, and the child, who weighed nine pounds, appeared unusually vigorous and healthy in every respect. All its functions were well performed for the first twenty-four hours, at the expiration of which time, at my second visit, I noticed more than the usual physiological discoloration of the skin. The mother was already very naturally alarmed about it, and at her solicitation, but without much faith, I decided to "do something for it." I accordingly ordered a cathartic and ten drops of sweet spirits of nitre three times a day, also frictions of the whole surface with spirits, hoping to facilitate the elimination of bile by stimulating the various emunctories. The cathartic relieved the bowels, the kidneys responded promptly, and a larger quantity of urine was passed, but it stained the diapers dark yellow. On the second day the mother had considerable milk and the child nursed well, but the jaundice rapidly increased; the baby became more and more stupid, could swallow nothing, and died comatose on the third day, as its brothers had done before. For twelve hours before death it was as "yellow as gold," as the mother said, precisely as the others were, and was a disgusting object to see. There was nothing unusual about the appearance of the navel. No autopsy was permitted.

Undoubtedly fatal icterus of the new-born is rare, but such a succession of fatal cases, children of the same mother, is rarer still. References to this disease by authors whom I have consulted are very brief and vague.

Vogel<sup>1</sup> states that most of the icteric children suffer from a still unciatrized and ulcerating navel, with which the icterus stands in the closest relation; and that usually phlebitis of the umbilical, sometimes of the portal vein, and small abscesses in the parenchyma of the liver are found at autopsies. He regards pernicious icterus, therefore, as a local condition or a complication of phlebitis umbilicalis. Its cause is to be sought, according to Frerichs, in a diminished tension of the capillaries of the hepatic parenchyma which ensues at the cessation of the afflux of blood by the umbilical vein, and causes an augmented transposition of bile into the blood. He further states, "So far as I am aware there is not one case of recovery reported."

J. O. MARBLE.

WORCESTER, January 27, 1877.

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#### THE METRIC SYSTEM.

MESSRS. EDITORS, — The following note, just received from my friend Dr. de Wecker, of Paris, will, I think, settle the question as to the method of prescribing liquids by the metric system: —

"In answer to the question you have addressed me, I would state that *all* medicinal substances, whatever their specific gravity, are, by the French Pharmacopœia, *to be weighed*. To this rule there are no exceptions, unless, indeed, the physician indicates *drops* in his prescription."

H. DERBY.

BOSTON, January 29, 1877.

<sup>1</sup> Fourth Edition, page 72

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEBRUARY 3, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228			27.46
Philadelphia	850,856	242	14.79	22.88
Brooklyn .	527,830	189	18.62	24.31
Chicago . .	420,000	161	19.93	20.41
Boston . .	363,940	133	19.00	23.39
Providence	103,000	35	17.67	18.34
Worcester .	52,977	20	19.63	22.00
Lowell . .	53,678	31	30.03	22.21
Cambridge	51,572	24	24.19	20.54
Fall River	50,370	10	10.32	22.04
Lawrence .	37,626	23	31.79	23.32
Lynn . .	33,524	12	18.61	21.37
Springfield.	32,976	8	12.62	19.69
Salem . .	26,739	17	33.06	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place. Dr. J. T. G. Nichols will report An Obscure Case.

CITY HOSPITAL. — Dr. S. G. Webber has been appointed physician to out-patients with diseases of the nervous system.

Dr. E. W. Cushing has been appointed physician to out-patients with diseases of the throat.

COUNCILLORS' MEETING. — At a meeting of the council of the Massachusetts Medical Society, held on February 7th, Dr. R. H. Fitz was elected a member of the council in the place of Dr. W. W. Morland, deceased, and Dr. J. Collins Warren was elected in the place of Dr. J. B. Treadwell, resigned.

BOOKS AND PAMPHLETS RECEIVED. — Cases of Yellow Fever observed in Charleston, Summer of 1872, with Thermometrical and Pulse Observations noted at the Bedside, with a very High Percentage of Recoveries under the Treatment Used. By F. Peyre Porcher, M. D. (From the Charleston Medical Journal and Review.) Pp. 23.

A Directory for the Dissection of the Human Body. By John Cleland, M. D., F. R. S. Philadelphia: Henry C. Lea. 1877.

Ziemssen's Cyclopaedia of the Practice of Medicine. Vol. VII. Diseases of the Chylopoetic System. New York: William Wood & Co. 1877. (From H. D. Brown & Co., 67 Cornhill, General Agents for this work in New England.)

Tablets of Anatomy and Physiology. By Thomas Cooke, F. R. C. S. Nine Parts. New York: William Wood & Co. 1873 and 1874.

The Practitioner's Handbook of Treatment, or the Principles of Therapeutics. By J. Milner Fothergill, M. D. Philadelphia: Henry C. Lea. 1877. Pp. 575. (For sale by A. Williams & Co.)

Liebig's Extract of Malt and its Chemical Composition, Manufacture, and Therapeutical Uses. By F. H. Davis, M. D., of Illinois. (Extracted from the Transactions of the American Medical Association.) Philadelphia. 1876. Pp. 8.

A Text-Book of Physiology. By M. Foster, M. A., M. D., F. R. S., Praelector of Physiology and Fellow of Trinity College, Cambridge. London: Macmillan & Co. 1877. Pp. 339. (From James Campbell.)

Extracts from the Records of the Boston Society for Medical Improvement, with Papers read before the Society. Published in the Boston Medical and Surgical Journal by the Secretaries of the Society, Charles D. Homans, M. D., and Francis B. Greenough, M. D. Vol. VI. Boston. 1876. Pp. 460.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## NOTES ON SOME OF THE MOST FREQUENT FORMS OF SKIN DISEASE.

BY F. B. GREENOUGH, M. D.

HAVING had, since July 1, 1873, over eight thousand cases under observation and treatment in the department for skin and venereal diseases at the Boston Dispensary, besides a certain number in private practice, much fewer but naturally more thoroughly observed, I have thought that the privilege of seeing such a large amount of material carried with it the duty of utilizing it in such a way that others as well as myself (and let us hope the patients) should be benefited by it. It is to the desire of being able to do so that the proposed notes on some of the most frequent cutaneous affections owe their being. While not hoping to be able to give any original views on the subject, I shall endeavor to deduce from these cases some practical suggestions, more especially with regard to diagnosis and treatment, which may be of service to the general practitioner, under whose care such cases constantly come, and who may not have the inclination or the time to look up the subject in the exhaustive treatises written by and addressed to specialists. Before treating of the different diseases of the skin that the physician is likely to be consulted for, a few words on the subject in general may not be out of place. The objections to perambulating or out patients in general as affording a basis for scientific deductions obtain with increased force in the case of those afflicted with cutaneous disorders; for while in common with all out-patients they are irregular in their attendance, disobedient in carrying out instructions, apt to run from one charitable institution to another, etc., in addition to this is the fact that the treatment of skin diseases is in a great measure local, requiring more time and trouble than they will give, and necessitating frequent bathing and washing, the appliances for doing which properly they do not possess.

The extent to which going from one institution to another may be carried is shown by the following case, which was told me as an actual fact: a patient suffering from some chronic trouble having gone the rounds of all the hospitals and dispensaries where gratuitous advice is given, and having got his medicine or receipt from each, consulted a

friendly apothecary as to which would be the best to take. It must therefore be admitted that for strict statistical statements as to the result of treatment, duration of disease, etc., our out-patient departments are of little value. Still, general deductions can be drawn which will be of service to the observer, and will be accepted as valuable, or otherwise, by his colleagues, as they know him to be candid and unbiased, or the reverse. Instead of being able to say, as the family or visiting hospital physician can, so many cases were treated in such a way, and of that number so many got well, so many improved, so many were not relieved, and the average duration was so many days, the physician to out-patients must say, so many cases were treated, with on the whole good, bad, or indifferent success. It is true that exact results have been given, but the patients must have been very different from those that have come under my observation, for although some of them come regularly and give the opportunity of keeping an exact record of their cases, they are a small proportion of the whole. Certainly, if I should assume that all those who had not finally reported themselves as cured must be considered so, on the ground that had they not been they would not have ceased coming, my success would far exceed anything yet claimed.

One great advantage that the physician has in treating a disease of the skin is that he can judge it by his own senses; he can see and touch it, instead of having to be guided in his examination by such vague and unreliable evidence as is given by the feelings and sensations of the patient. It may seem superfluous to say that, having this advantage, he should avail himself of it; in other words, that when consulted for some cutaneous trouble, the physician should make the patient show him what the trouble is. Nevertheless, it is far from uncommon for a diagnosis to be made and a prescription given, or perhaps only the latter, without the prescriber's having seen what he was prescribing for. The following case is an extreme one, but not without parallel. A gentleman having contracted a gonorrhœa was put by his medical adviser on a course of copaiva. In a few days he was annoyed by an eruption of red spots on the lower part of his abdomen, to which his attention was called by the fact of their itching greatly. On again consulting his doctor he was told (without any examination) that it was a rash due to the copaiva, and that drug was stopped. Not getting any better, but rather the reverse, he was sent to me. On examination the hairs about the pubes and lower part of the abdomen were found to be very thickly populated by pediculi pubis, and the only "rash" present was due to his finger nails.

It is not only important to see the eruption, but to get as general and comprehensive a view of it as possible, as its distribution and grouping are often important in differential diagnosis. It would be possible in some



cases of psoriasis, at a certain stage of the disease, to pick out one or two spots, say on the arm, from seeing which alone no dermatologist could say whether the case were one of psoriasis, eczema rubrum, a syphilitic eruption, or perhaps herpes tonsurans. Of course a patient cannot always be stripped, but it is important to bear in mind that the first step towards properly understanding and treating a disease of the skin is to see it, and all of it, if possible. This being granted, we have the great advantage of being in a measure independent of what at best is often vague, contradictory, and unreliable, the history of the case as given by the patient.

In no branch of medicine have the theories of the humoral pathologists taken such firm root (with the public) as in dermatology; the first demand that the physician will have made on him by his patients, in nine cases out of ten, be they rich or poor, wise or ignorant, will be for something to purify the blood, or "blood medicine," and what is more, if the demand is not complied with in many cases, he will lose the confidence of the patient if not the patient himself. By almost universal consent all eruptions are looked upon as nature's means of throwing off certain effete or peccant humors; hence the supposed danger of interfering by local means of treatment.

The amount of phthisis, rheumatism, gout, and other chronic ailments that exists, due entirely in the opinion of the sufferers and their friends to some eruption having been driven in by an ignorant doctor, is enormous. We all of us probably remember when, as children, one or two sebaceous follicles on our foreheads or chins having become occluded, the imprisoned sebum, acting as a foreign body, set up an inflammatory action which ended in suppuration and ejection of the offender; in short, when we had a pimple or two we were put on a short allowance of butter and were not allowed any gravy on our potatoes.

The reasons for this general belief in a connection between an eruption and some impurity of the blood are not very hard to find, as there is something plausible in the idea, and it is, moreover, to a certain extent borne out by analogy. The eruptive fevers are supposed to be due to a contagious poison which affects the blood, and their chief characteristic is an eruption. Still stronger is the case of syphilis, a contagious disease caused by the actual absorption of an entity which we call the virus, the nature of which we cannot define, but which we know is contained in the secretion of a syphilitic sore or in the blood of a syphilitic patient, and one of the first manifestations of its working in the system is an eruption. In short, we must admit that it is not to be wondered at that, in the popular mind, a rash should be attributed to some morbid condition of the circulating fluid.

Of the many debts which dermatology owes to Hebra one of the greatest is for his having demonstrated that the skin is a constituent of

the human frame, which may and in many cases does suffer from purely local disease without any constitutional or general trouble as a cause. His investigations apply more especially to eczema, and his line of argument may be briefly stated as follows:—

By the use of certain irritants, croton oil for example, on the skin we produce inflammatory action, with a dry, scaly condition, or papules; if the irritation is kept up, vesicles, and, carrying the experiment still farther, pustules; in short, the various stages of eczema. This process of investigation, by the bye, was what led Hebra to the all-important truth that the diseases which had before been called pityriasis, lichen, eczema, and impetigo were merely different conditions or stages of the same pathological process, namely, eczema. From these experiments the deduction is clear that, if by mere local irritation a certain condition of the cutis can be produced, we are not justified when we find that condition of the skin to attribute it to some constitutional vice, some humor of the blood, for example. The argument could be carried out in the case of acne and furuncles, both of which are popularly supposed *par excellence* to show impurity of the blood, and both of which are, with only a difference of degree, the same pathological process, namely, the effort of the living tissues to get rid of a foreign substance: in the first case the imprisoned sebum of a gland, in the second a slough of the cutaneous tissue. Both of these manifestations can be produced artificially: the first by sticking a small splinter or sliver, which will not penetrate the epidermis, into the skin, and the other by shoving a larger one through so as to reach the subcutaneous areolar tissue. It is true that when we attempt to go farther and ask what it is that causes the sebaceous gland to become occluded, or the slough to form, we can get no answer, but there is no reason to suppose, nor can we conceive how it is possible that any special state of the blood should do so.

Not to carry the discussion farther than this connection will warrant, it may briefly be stated that the cutis, like other parts of the body, may suffer from local trouble, inflammation, abnormal nutrition, etc., without there being any general constitutional disease, and that such an eruption, an eczema, for example, being local, and not a means of throwing off the impurities of the system, there is no danger in curing it if we can, but on the contrary every reason why we should do so; and further, the trouble being a local one, the treatment most likely to succeed will also be local. The acceptance of this fact has been of great service to dermatology. I can well remember a child who for years, from early autumn to late spring, suffered tortures from a general eczema; the different members of his family took turns in sleeping, or rather in passing the night with him, to prevent his tearing himself to pieces. Nothing was done for fear of “driving the disease in,” and yet

one week of appropriate treatment would have made him comparatively comfortable.

To be strictly logical, however, it must be confessed that the fact of having proved that an eczema may be called forth by mere irritation, while showing that it may be simply a local disease, does not prove that it may not sometimes be due to something else. In other words, the fact that *a* (local irritation) will produce *b* (eczema) does not prove that *x* may not also do so. Although convinced that as a rule an eczema is merely a local cutaneous disturbance, experience forces me to believe that there is a class of cases behind which some unknown factor exists. We see cases which yield very slowly and as it were reluctantly to treatment, in which just when we seem to be getting the better of the disease it breaks out in some other spot, or as soon as the skin seems to have almost regained its normal condition a relapse takes place, and this over and over again.

We find this state of things in members of the same family. There is no more reason to attribute this to any vice of the blood than to some trouble of the nerves regulating the circulation or nutrition, for example, but for some reason or other these persons are liable to have eczema. Even the strongest advocates of the local nature of eczema must admit that some persons have a decided tendency to this local manifestation.

In this connection it seems to me that Hebra's reasoning may be turned against him. Why is it that certain individuals can handle ivy or dogwood with perfect impunity, while others cannot come in contact with it without its calling forth an acute eczema? Even the example of an irritant which he uses, that is, croton oil, has a very different effect on different individuals, in some cases requiring several applications before the eruption is brought forth, in others one only being sufficient. It would be very interesting to know whether those who are susceptible to the poison of ivy, etc., are liable to have attacks of eczema apart from the result of irritation; but from my own experience I have not been able to draw any such conclusion, nor have I been able to find any statistics bearing on the subject.

I cannot help thinking, as far as eczema is concerned, that there may be a germ of truth in the hobby which the school of the St. Louis Hospital, headed by Bazin, has ridden so hard, namely, the connection of eczematous eruptions with the "arthritic diathesis." What I mean is that I think that many of the cases of persistent and recurrent eczema that I have seen have occurred in subjects whose urine is apt to contain an excess of uric acid and urates, and who have a tendency to rheumatic or gouty manifestations. Beyond this theory I cannot go; I have not found marked benefit from the antiarthritic arsenal in such cases. It must, however, be borne in mind that these weapons, that is, the alkali-

lies, iodide of potassium, colchicum, salicylic acid, etc., are not always brilliantly effective against rheumatism and gout themselves.

All that can be said is that in certain cases there does seem to be something beyond a simple cutaneous lesion; what it is we do not know, but the practical point is that there is no probability of its being anything which should prevent us from curing the disease if we are lucky enough to be able to do so.

One very important point in successfully treating a disease of the skin is that the local applications should be properly made. It is very easy to give directions for applying an ointment, plaster, or wash, one, two, or three times a day, but to be sure that it is properly and thoroughly done is another thing, and this certainty can only be attained by the physician's taking the trouble at first to show the patient or nurse how to do it.

(*To be continued.*)

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### THREE CASES OF DYSENTERY TREATED SUCCESSFULLY BY LARGE DOSES OF IPECACUANHA GIVEN BY THE NON-EMETIC PLAN.<sup>1</sup>

BY EDWARD J. FORSTER, M. D.,

*Physician to Out-Patients, Boston City Hospital.*

CASE I. July 20, 1873, I was called to B. H., a teamster about thirty years of age. He was in bed, suffering from considerable pain in his bowels, and tenesmus, and having frequent bloody and slimy stools. I prescribed a full dose of laudanum, to be followed in twenty minutes by twenty-five grains of pulverized ipecac suspended in syrup of orange peel, which is said to conceal the taste of the ipecac quite well. The patient was to remain in the horizontal position, and to abstain from food and liquids for at least six hours; the ipecac, if rejected, to be repeated every twenty minutes until retained. The medicine was to be given again in six hours from the retained dose, unless in the mean time the character of the stools showed a decided change for the better. At my visit the next day, I found that my patient had retained the first dose of the medicine, and that all dysenteric symptoms had subsided. Giving directions in regard to the diet for the next few days, I left the case, with instructions to send for me if any relapse took place.

CASE II. August 16, 1873, I was called to Miss S. R., a seamstress, twenty-three years of age, whom I found with a pulse of 130, and a temperature in the axilla of 102.2° F. For a day or so she had been suffering from a slight diarrhœa. At the time of my visit, however, the dejections were bloody and slimy, and were accompanied with tormina and tenesmus. Ipecac was given in the same manner as in the

<sup>1</sup> Read before the Boston Society for Medical Observation, January 15, 1877.

previous case, and the next day her sister called at my office and informed me that my patient was much better, and that I need not make a visit. Two days later I was again called, and found that she was thoroughly convalescent as regarded the dysentery, but in need of sleep, for which I prescribed ten grains of Dover's powder. In this case, the first dose of the medicine was retained without difficulty.

CASE III. August 21, 1873, I was called to J. D., a teamster, about forty years of age, who had fallen from his team, but had sustained no other injuries than a few slight bruises about the head. He was, however, considerably frightened about himself, thinking that he had received some internal injuries. He informed me that he had been suffering from dyspepsia, and was afraid that he had now taken cold, as his clothes were thoroughly wet from perspiration, and in that condition he had been driven home from where he fell, a distance of about six miles. He complained of pain in the bowels, for which one eighth grain doses of morphia were given. This failed to prevent an attack of diarrhœa, which by the 23d, two days after I was first called, became dysenteric, tormina continuing with almost constant tenesmus. The sulphate of magnesia and sulphate of morphia in small and frequent doses, five grains of the former with one twelfth grain of the latter, were prescribed, and this treatment was continued for four days; but as at the end of that time the symptoms had shown no abatement of their dysenteric character, it was decided to give the ipecac in the same manner as described in the foregoing cases. The first dose was rejected, but a second was retained, and was repeated in six hours. The next day I found the stools natural and my patient convalescent, so that I did not see him again for three days, when I made my last visit.

The foregoing cases are reported for the reason that I believe, from conversations with other physicians, that the treatment of dysentery by large and at the same time non-emetic doses of ipecac has not been so extensively tried in this vicinity as I am convinced it should be. Those who have read of this method of treatment and have not tried it are no doubt somewhat governed by the feeling that a drug which they have been taught to look upon as an emetic, and one of our most common ones, cannot be given without being followed by emesis, and therefore cannot affect a case of dysentery, except so far as emesis might be beneficial.

The use of ipecac in this manner has been revived of late years on account of the success which has followed its use in the East. A singular fact in the history of the drug is that when introduced into Europe from Peru it was under the name of the *Radix Anti-Dysenterica*.

SALICYLIC ACID IN IRITIS.<sup>1</sup>

BY LEONARD WHEELER, M. D.

My own experience with salicylic acid in iritis is worthy of record. I have suffered repeatedly from this affection in each eye, in all twelve times, — eight full attacks and four abortive. In each full attack there was about a week during which the pain, especially at night, was very severe. Till the last time, I found it best controlled by one quarter of a grain of morphia, given subcutaneously in the temple. In my last attack, I took, one evening, in the stage of invasion, a drachm of salicylic acid in ten-grain doses every hour. There was no change for the better or worse for some days after. Then, after exposure, I rapidly grew worse; pain came on, and I took opium by the mouth and subcutaneously for two nights, with only partial relief. On the third evening, I tried salicylic acid as before, slept all night, and awoke with a clear head and good appetite. I took the acid every evening, gradually diminishing the dose to thirty, twenty, and ten grains, and had no more pain. The eye seemed to clear up more rapidly than usual. I took from ten to twenty grains every evening for three weeks, and after the interval of a fortnight, during which the eye again became threatening, for four weeks longer, sometimes with additional morning and noon doses, in case I felt any rheumatic pains. This experience seems not only of practical value, but also supports the argument in favor of the rheumatic origin of what is indeed usually called chronic rheumatic iritis. But of the oculists I have consulted, several disclaimed the belief in such an origin, saying that a majority of their patients had no rheumatic history, and, as to hereditary acquirement, that there were few families without rheumatism. I suppose I should be reckoned among patients without such a history, never having had any more definite rheumatic symptoms than pain, more or less acute on motion, in the sciatic, intercostal, and lumbar regions. The lumbar pain, for two years past, has often been sufficient to keep me awake. While I have been taking salicylic acid, these symptoms have been much less frequent and severe, and their coming and going really seem to be controlled by the drug. If they come, it appears to be when, for a few days, I am taking little or no acid, and larger doses remove them. In one dispensary case, under similar circumstances, the acid seemed to be a remedy. In two others it was not successful. I have experienced no unpleasant effects from this long and free use of the acid, except a slight constipation.

The insolubility of salicylic acid in water makes its administration in liquid form difficult. Ten parts of the acid and eight of borax, with

<sup>1</sup> Extracts from a paper read before the Worcester Society for Medical Improvement, January 3, 1877.

one hundred of water, make a clear solution of six grains to the drachm. I have tried various others, but none so good as this. The largest amount I have seen recorded as taken is three hundred and ninety grains in twelve hours, which produced no ill effect.

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## RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.<sup>1</sup>

BY W. L. RICHARDSON, M. D.

### GYNÆCOLOGY.

*Subperitoneal Fibroid Tumors of the Uterus.* — Ovarian tumors have been successfully removed by means of an incision made through the posterior vaginal wall; but, so far as we know, to Dr. R. S. Sutton<sup>2</sup> belongs the credit of being the first to attempt the removal in this way of a fibroid tumor of the uterus. The patient was a colored woman, fifty years of age. An examination showed a solid tumor which filled the right half of the pelvis, and crowded the uterus from the median line towards the left. The patient was placed under ether, and, the bladder having been emptied, an incision was made through the posterior wall of the vagina at a point midway between the cervix uteri and the rectum. The hæmorrhage which followed was checked by the free use of cold water. An incision was then made through the peritoneum. The hand of the operator, having previously been dipped in carbolized water, was then carried well up into the pelvic cavity, and the adhesions of the tumor were forcibly broken up. On withdrawing the hand, the small intestines followed into the vagina. By means of a pair of strong vulsellum forceps, the tumor was drawn down into the vagina, the lips of the vaginal incision being worked back over the growth. The exposed capsule was then incised and stripped back over the tumor, which was found to be attached to the posterior wall of the uterus by a fleshy growth. Two vessels of this pedicle were tied. The pedicle was returned, together with the folds of the small intestines, into the abdominal cavity. No stitches were taken in the vaginal wound. The operation lasted about forty minutes. The patient died on the morning of the fourth day, of peritonitis. At the autopsy a wound of the small intestine was found, which had been made by a prong of the vulsellum.

Dr. C. B. King<sup>3</sup> reports the case of a woman, aged thirty-six, in which he removed a fibroid tumor by abdominal section. The tumor was slightly oval in shape, and about the size of a child's head at birth. It was attached to the fundus of the uterus by a short, narrow pedicle of

<sup>1</sup> Concluded from page 198.

<sup>2</sup> Chicago Medical Journal and Examiner, December, 1876.

<sup>3</sup> Amer. Jour. of Med. Sciences, January, 1877.

about a quarter of an inch in length and three quarters of an inch broad. There were no attachments between the uterus and the abdominal viscera, although the uterus was bound to the anterior abdominal walls by adhesions of recent origin. The tumor was removed by means of a wire-rope *écraseur*, through an opening about five inches in length, made in the abdominal wall, and extending from a point in the median line about two inches below the umbilicus. The wound was closed with silver wire, the clamp being fixed at the upper part of the incision. The cut end of the pedicle was touched with persulphate of iron. The operation lasted about one hour. The patient made a good recovery.

*Dilatation of the Uterus.* — In an address delivered before the Obstetrical Section of the British Medical Association, Dr. Atthill<sup>1</sup> gives the results of his experience in operations performed with a view of effecting a dilatation of the uterine canal. He believes that the operation is not only harmless but even justifiable, provided always that it is performed properly and only in suitable cases. In no case has he ever failed, or observed a single bad symptom follow the operation. A careful examination of the reports of cases in which serious or unpleasant symptoms have followed the operation shows that such results occurred generally when the operation was performed, 1st, for the relief of a dysmenorrhœa which was dependent on a narrowing of the cervical canal; 2d, when the canal was encroached upon by a fibroid of large size and unyielding structure; 3d, when the process had been attempted in too rapid a manner by means of metallic dilators; or, 4th, when it has been protracted over several days.

Dr. Atthill believes that the following rules should govern the performance of this operation: 1st. The cervix uteri should never be dilated for the cure of a dysmenorrhœa, or a sterility, which is dependent upon a narrow cervical canal or a conical cervix. 2d. It should never be dilated when a large and dense intramural fibroid presses upon and, to a certain degree, obliterates the cervical canal. 3d. Metallic dilators should never be used. Either sponge or sea-tangle tents should be selected, since these latter expand slowly and gradually. 4th. The process of dilatation should never be continued beyond forty-eight hours. In cases where the cervix is not sufficiently dilated at the end of that time it is better to postpone further interference for some weeks.

As regards the treatment of a so-called mechanical dysmenorrhœa by dilatation, Dr. Atthill believes the procedure to be a mistake. No permanent benefit ever resulted from it, and in several cases he has known of grave symptoms, and, in one, death to follow the attempt. With reference to the time occupied by the operation, it seems evident that unpleasant symptoms are likely to occur in a direct ratio to the length of

<sup>1</sup> Brit. Med. Jour., August 12, 1876.



time over which the dilatation extends. In cases where a large fibroid of dense structure is developed, the operation of dilatation is objectionable for two reasons: first, because any attempt at operative interference from within the uterus is impossible; and second, because inflammation is liable to follow, and that too in patients in the worst possible condition to resist such an attack.

*Sponge Tents.* — There are few gynaecologists who are not willing to admit that the use of sponge tents is liable to produce abrasions of the mucous membrane which lines the cervix uteri, and that the tissue of the sponge is likely to absorb fluids which may subsequently become the cause of a septic poisoning. Dr. J. A. M'Farran<sup>1</sup> proposes a new instrument, by the use of which he hopes that these two sources of danger may be avoided. The instrument consists of a small metallic or hard rubber tube. Attached to the perforated extremity of this is a sponge tent, which is enveloped in a closely-fitting covering made of thin India rubber. At the other end of the tube is a distensible rubber reservoir for the water which is to be used for the dilatation of the sponge. As the sponge dilates the rubber covering stretches, protecting the mucous membrane from injury and rendering any absorption of the discharges impossible. If deemed advisable, the rubber covering may be made so as to envelop the entire apparatus, and thus the sponge will be kept in constant contact with the water, which will readily find its way from the rubber reservoir through the perforation at the end of the tube.

Dr. Seyfert, professor of the Gynaecological Hospital (Philadelphia), has used this new form of sponge tents on several occasions with the most satisfactory results. and, in a report of a series of cases, speaks of the invention of Dr. M'Farran as the nearest approach to a safe and reliable tent which is at present used by gynaecologists.

*Excoriations of the Os and Cervix Uteri.* — In a valuable paper on the above subject, Dr. Richard J. Halton<sup>2</sup> gives the result of his experience in observing and treating a large number of cases in the Kells Dispensary, Ireland. During a practice of twelve years he has only once observed a uterine excoriation in an unmarried woman. The majority of the cases occurred between the twenty-fifth and the thirty-fifth year. As a rule, both lips of the uterus were simultaneously affected. The chief point of the paper, however, is the allusion to a new symptom, to which Dr. Halton calls especial attention, and which he is inclined to consider pathognomonic of the disease. This is a numbness of one leg, usually on the left side, and this feeling of numbness generally begins in the thigh, and runs down the leg. Occasionally, though rarely, it is met with in the arm. This symptom, when present, is very marked and unmistakable. The patients declare that they cannot

<sup>1</sup> Philadelphia Medical Times, July 8, 1876.

<sup>2</sup> Dublin Journal Med. Science, June, 1876.

even feel that their own hands are touching the leg. In some cases it is accompanied by a tingling or stinging sensation. There will also be noticed, not infrequently, a distinct tenderness on pressure in the ovarian region of the affected side. Moreover, the diminution and gradual disappearance of these symptoms are indications of a renewed healthy action and a consequent cure, even before the local affection shows much if any improvement.

The treatment invariably adopted for the cure of these excoriations was the prescribing of measures calculated to reduce the local congestion, and touching the excoriated surface with the strong nitric acid. Astringent injections were entirely discarded, as of little if any use. Strychnine in small doses in combination with dilute nitric acid was found to be very serviceable.



## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. GREENOUGH, M. D., SECRETARY.

DECEMBER 11, 1876. *Muscular Paralysis following Injury to Shoulder.* — DR. WEBBER showed two cases in which, as a result of injury to the shoulder, paralysis had followed, rendering it impossible for the patients to raise the arm horizontally from the body, this inability being due to the paralysis of different muscles in the two cases, that is, the deltoid in one case, and the serratus magnus and deltoid in the other.

The first case was of five weeks' standing. The man had fallen, striking his head and shoulder. There was paralysis of the deltoid, the anterior fibres being most affected. He had nearly recovered, but still showed some loss of power, and there was very great diminution of reaction to the faradic current in the anterior fibres of the deltoid; the lateral and posterior fibres responded more readily. When first seen there was almost entire loss of power to raise the arm, and when told to do so he leaned the body back so as to support the arm on the chest and thereby elevate the hand. The scapula remained during all such efforts firmly fixed to the thoracic wall, in marked contrast to the second case. The deltoid was the only muscle affected.

In the second case there was paralysis of the serratus magnus in consequence of pressure of the head of the humerus upon the long thoracic nerve, there having been an unreduced dislocation of the humerus for eight days. When the patient tried to raise his arm to a horizontal position directly forward, the internal edge of the scapula projected backwards, starting away from the thoracic wall. On the healthy side the irritation of the anterior fibres of the deltoid with the faradic current produced the same appearance artificially. On the healthy side the serratus magnus responded readily to the faradic current when applied to the axilla or to the nerve above the clavicle, but on the diseased side the response was very slight, yet rather more than when the patient was first seen. A slight loss of power in the deltoid was also shown by a difference in the reaction of that muscle on the two sides.

DR. BIGELOW said that in the second case he should doubt whether the lower fibres of the serratus magnus were paralyzed, as in two cases of entire paralysis of that muscle which he had seen, the lower angle of the scapula was drawn towards the spine when the arm was raised, which did not take place in this case.

In answer to a question as to the reason of the greater frequency of trouble resulting from injury to the shoulder than to other joints, DR. WEBBER said that he supposed it to be due to the situation, anatomical relations, etc., of that joint, and to the fact that a slight disability in the shoulder is more readily noticed than in other joints,—the hip, for instance,—because the motions of the shoulder-joint are so much more complicated.

*Hypertrophy of the Adenoid Tissue at the Vault of the Pharynx.* — DR. KNIGHT spoke of a case of hypertrophy of the adenoid tissue at the vault of the pharynx which had recently come under his observation. The patient was a young gentleman, a student, who complained of obstruction of the nose, and a consequent affection of the tone of the voice, and a little deafness. On rhinoscopic examination the cause of these symptoms was seen to be the above-mentioned hypertrophy. This adenoid tissue has been fully described by Luschka, and its hypertrophy by Meyer, of Copenhagen. It is sometimes so great as to completely obstruct the posterior nares, and to cover up all the landmarks usually seen in the rhinoscopic mirror. It is said sometimes to hang down below the soft palate. The mass is in some cases comparatively round and hard, and in others appears in clusters, is soft, and bleeds easily. Meyer recommends excision by means of a ring-shaped knife passed along the floor of the nostril.

In some cases Dr. Knight had caused the hypertrophy to subside quickly by applying lunar caustic; in the present instance this did not seem to have much effect, and he was using galvano-cautery with excellent results. It is important to distinguish this enlargement from the more serious tumors which occur in this region. Dr. Knight exhibited a section of a skull showing the situation of the adenoid tissue at the vault of the pharynx.

*Liquid Suppositories.* — DR. BIGELOW showed a syringe for the injection of liquid suppositories into the rectum. He remarked that of the common ways of introducing opiates into the system that by subcutaneous injection was the most rapid; the pain, when frequently repeated, was, however, to some people an objection to its use. He had also seen a case of fatal phlegmonous erysipelas, protracted for ten weeks, resulting from injections into the leg. Opiates in the stomach have the disadvantage of an effect varying with the contents of the stomach. Old people, especially those suffering from diseases of the bladder, often prefer suppositories, but suppositories require time to make and to harden, and are difficult to keep in hot weather. The instrument for their introduction is clumsy and ineffectual. A liquid suppository, not exceeding in bulk one or two drachms, is readily introduced and quickly absorbed. A syringe for its introduction should be small and provided with a square shoulder on the inside, so as to deliver the whole of its contents with accuracy, like a subcutaneous syringe, and should terminate in an extremity so large and blunt that it can be readily introduced.

The instrument shown was a metallic cylinder of the size of the little finger, terminating in a blunt and rounded extremity, and having a graduated screw on the piston. It contained one drachm, and was made by Messrs. Codman and Shurtleff.<sup>1</sup>

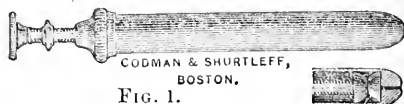


FIG. 1.



FIG. 2.

DR. JACKSON inquired what was the relative efficacy of opiates by the stomach and rectum.

DR. BIGELOW replied that opinions varied on this point, but that he was satisfied that there was no great difference in their effect. One eighth to one quarter of a grain of morphine required from fifteen to forty-five minutes to be felt.

DRS. ELLIS and MINOT corroborated the statement of Dr. Bigelow that opiates acted as well by the rectum as by the stomach, and Dr. Minot commended the blunt point of this syringe, as those provided for enemata have usually much too small an extremity. The small ones used for children are often painful and difficult to introduce.

*Fracture of the Odontoid Process.* — DR. SWAN reported the case. An old gentleman, aged seventy-seven, fell down his own stairs and broke his neck. A friend had walked home with him. His gait had been noticed to be somewhat unsteady, but on arriving at his house and seeing him into the entry, the friend had left him, shutting the front door behind him. Shortly afterward a thump was heard, and the subject was found lying at the foot of the stairs. There was the print of a rubber mat, which was lying at the foot of the stairs, on his forehead, showing that he must have fallen head foremost.

DR. FITZ, who had made the autopsy, showed the specimen, and stated that a diffused patch of extravasated blood was found beneath the scalp over the right parietal bone. The various organs of the body gave no evidence of recent changes, with the exception of the spinal cord just below the medulla, which was converted into a reddish-gray pulp over an extent of nearly one inch of its length.

The skull and atlas were dislocated backwards from a complete transverse fracture through the base of the odontoid process, the process itself being retained in its normal position, as the transverse ligament was intact. The posterior atlanto-axoid ligaments were torn across, and the tissues behind were infiltrated with recently extravasated blood. The left capsular ligament between the atlas and the axis was also torn. In front, the check ligaments were ruptured, and the occipito-axoid ligament was torn away from its attachments to the body of the axis, the bony surface thus exposed being somewhat more roughened than usual. The upper articulating cartilages of the axis were slightly eroded, in part absent, and the anterior surface of the odontoid process was eburnated. The cancellated structure of the latter was quite porous, and the peripheral portion somewhat thinned. The association of evidences of chronic rheumatic arthritis with the fall and its results are of interest as perhaps, in part, explanatory of the nature of the injuries.

<sup>1</sup> The cut is one half size, and shows the square shoulder, by means of which the whole contents are discharged.

*Enormous Aneurismal Dilatation of the Aorta.* — DR. LYMAN reported the case and showed the specimen. A. B., aged forty-two, entered the City Hospital September 16, 1875. Twenty-three years ago he had inflammatory rheumatism. In 1863, twelve years before, he had double pleurisy, and then remained in good health until 1872, when he had a fall, striking heavily on the right side, but thought himself to be only slightly injured. About one year before entering the hospital, after "a cold," he felt sharp remitting pains in the epigastrium and through the chest, with "fluttering about the heart" and dyspnœa; he was obliged to lie on the back or left side. At that time there was little or no cough. After two months in bed these symptoms abated, except the "fluttering" and dyspnœa. For the past three months he had had increased dyspnœa and sometimes orthopnœa, sharp, dry cough, inability to lie on the left side, a return of the thoracic pains with increased severity. They were referred chiefly to the space bounded by the right clavicle, nipple, and sternum.

At the time of entrance the præcordial pain was not severe; there was sore throat, no dysphagia, some tinnitus aurium. The heart sounds were normal in rhythm, but a bellows murmur or long, blowing sound replaced the sounds from the mitral and aortic orifices, and was heard over nearly the whole of the front, most distinctly about the middle and to the right of the sternum, and quite marked over the subclavian and right carotid arteries. Cardiac impulse seen over whole front. Pulsation in carotids, brachials, and radials remarkably distinct. Area of cardiac dullness ovoidal, three and one half inches transversely and five inches longitudinally, extending from the right sterno-clavicular articulation downwards to the sixth costal cartilage. Marked prominence of third costal cartilage.

Auscultation and percussion show presence of lung in the space which should be normally occupied by the heart. Loud murmur in right carotid. Impulse in left much less than in the right. Severe pain extending through to right scapula.

October 14th. Greatest dullness over the upper third of the sternum. Both sounds heard between right nipple and the side of sternum, extending from clavicle to two inches below nipple, rough and rasping like rude respiration, and these sounds extended across the lower third of the sternum to the left side. The sounds over the whole front, and especially on the right side, were so intense as to obscure the respiratory murmur. Carotids, left especially, pulsed heavily. Upper third of both backs dull on percussion.

For a few days the patient had complained of pain in the normal cardiac region, extending to the left shoulder, and when the palpitation was excessive the pain was felt in the arm. No thrill or perceptible impulse in the supra-clavicular region except the carotid pulsations; not much difference in pupils, if any the left most dilated; right radial softer and more compressible than the left, which was fuller and more resilient. Pulsations in right and left radials synchronous, or with such slight difference as to be of no diagnostic value.

October 30th. The cartilages of the six superior right ribs have become prominent, especially the sixth. Feels more comfortable, and complains only of pain extending through to lower angle and spine of scapula.

November 14th. Complained now of pain, dysphagia, and stiffness of neck. The dysphagia was not constant, but recurred at intervals only. For the past two weeks pain more severe in right shoulder and sternal end of ribs.

November 20th. Marked thrill in right supra-clavicular region noticed for first time, and the following day the inequality of the pupils became more evident.

December 28th. Pulse firm, rhythm more natural, sounds less intense, less throbbing; no pain at all in right side; constant pain in left axilla. No dyspnoea or dysphagia. Feels much better; sat up yesterday.

January 2, 1876. Pain in spine for first time to-day. Decubitus on the right side. Palpitation so severe as to deprive the patient of sleep.

January 20th. Dullness through lower left back, with fine crepitus; sputa viscid, with brownish tinge.

January 29th. Distress in left side; eats little and vomits often.

February 11th. The pneumonia which began January 20th has disappeared, a little cough and nausea only remaining, but the patient has now dysphagia and a husky voice.

March 28th. Dyspnoea excited by the least exertion, and aphonia gradually developing.

May 28th. Edema of feet and legs supervened, extending to scrotum and abdomen.

August 1st. Dyspnoea and increased pain. Sleeps sitting upright, and occasionally falls out of bed. Continued to fail rapidly, and died, quietly, August 7th.

The minute details of the record it is useless to give, and I have noticed only such points as are of interest in showing the progress of the disease. The extent of the aneurismal dilatation was such as to preclude any reasonable hope of improvement by treatment which was mostly confined to the relief of pain, palpitation, and nausea. Attempts were at first made to give a fair trial to the iodide of potassium, but after several efforts the increase of gastric distress made it necessary to discontinue it.

*Autopsy*, thirty-six hours after death, by DR. BOLLES. There were four ounces of clear fluid in each pleural cavity, and one ounce in the pericardium. Lungs adherent, not diseased; heart partially adherent. Erosion of dorsal vertebrae. There was slight hypertrophy of the heart, with thickening of the aortic valves, especially at their borders which were hard and rounded. The other valves were not diseased. The aorta presented a general aneurismal dilatation extending from just above the heart into the descending portion, embracing the entire arch, and in size and shape resembling a small stomach with the cardiac orifice at the heart, the pylorus say two inches down the descending portion, and the greater curvature directed upwards. The great vessels of the neck were of course given off from this sac. Its walls were atheromatous to a marked extent and of uniform thickness. There was no deposit of fibrin and no rupture. Liver and kidneys congested.

*Aortic Regurgitation.* — DR. LYMAN also reported a case of aortic regurgitation and showed the specimen. W. G., laborer, aged forty-three years, entered the City Hospital on the evening of November 9, 1876. He was almost

in a state of collapse, extremities cold and cyanotic, dyspnœa urgent, respiration 42, temperature 97.5° F., pulse 120. Placed in a warm bed, surrounded by heaters, and with brandy given at short intervals, reaction gradually took place, and the following morning Dr. Lyman found him sitting up, comparatively comfortable, being unable to lie down owing to the dyspnœa. He complained of pain beneath the sternum and of palpitation. His attacks of distress, he said, were preceded by shooting sensations, extending from the lower extremities to the head. Nothing in his family history worth noting. Reports his general health as good until six weeks before entering the hospital, at which time he says he strained himself lifting heavy weights, and the following day expectorated a small amount of blood. A cough continued for five weeks, but the sputa were free from blood. No hæmaturia followed the strain. Orthopnœa had been increasing steadily for the previous three weeks, with constant pain in the lumbar region. His legs and scrotum were tense, hard, and brawny from œdema, the body, upper extremities, and face slightly so. Moist râles throughout both lungs. Urine passed soon after entrance contained albumen 1.5, with hyaline and granular casts.

November 10th. Temperature 97.6°; pulse 108; urine this morning contained no albumen. Dry cups over loins; jalap cathartic; hock wine, etc.

November 11th. Sibilant and fine mucous râles through both backs. Urine carefully examined immediately after being passed gave specific gravity 1023. Color normal, odor offensive, no albumen, but hyaline, coarse and fine granular and fatty casts, and crystals of triple phosphate and amorphous urates. Aromatic spirits of ammonia, squills, and digitalis were ordered.

November 12th. Has been unable to bear prolonged examination heretofore, but to-day a loud souffle was audible in the fourth intercostal space. Pulse strong and jerking; no resiliency. Less pulmonary œdema; breathing easier and less rapid.

November 13th. More comfortable. Slept the greater part of the night. From six P. M. to eight A. M. passed eighty ounces of urine. Dorsal decubitus possible for first time since entrance. No albumen in urine.

November 14th. Urine, twenty-four ounces; a trace of albumen, with hyaline and granular casts.

November 19th. Condition much the same. Urine varies from fourteen to thirty ounces. Digitalis and Fowler's solution were ordered; also one fifth of a grain of elaterium hourly until bowels moved.

November 20th. Marked diminution in the anasarca. Breathes quietly and easily, and reclines on his back without discomfort. With arms in erect posture the pulse is uniform, but firm and sharp. Throbbing in external carotids is strongly marked; no visible impulse in jugulars. Pulsation very manifest in supra-clavicular spaces, most on the left. *No extension of cardiac dullness on percussion.* Apex beat very obscure, but most perceptible on a level with lower edge of sternum, two and one half inches to left. No murmur over apex, but rhythm very irregular. Diastolic souffle in fifth intercostal space, more marked as you ascend to the third intercostal space, and thence obliquely to the right to the centre of the sternum.

November 25th. Pulse has become steadier and more regular. Prepuce and

scrotum punctured to relieve œdema. A trace of albumen in urine. No casts found.

November 29th. Whisky in repeated doses was needed for severe attack of dyspnœa during night. Urine, thirty ounces. Albumen 1.5 per cent. Digitalis continued, with chloroform and opium at night.

December 1st. Pulse more regular. Some lividity of hands. Urine, thirty-one ounces.

December 5th. House-officer called in night, and found the patient suffering from severe abdominal pain. A subcutaneous injection was given, but without relief, and he died at midnight.

*Autopsy*, forty hours after death. Body large and fat; legs and penis quite œdematous; several ounces of fluid in peritoneum, and a smaller amount in pleuræ. Lungs œdematous; heart enormous, evenly hypertrophied, its walls very strong and thick; weight, two pounds and one half ounce; contained a considerable amount of soft clot. All the valves were perfect excepting the aortic, which were insufficient, partly from thickening of their borders, which was not, however, sufficient to stiffen them much, but chiefly from dilatation and atheroma of the aorta itself. The liver showed passive chronic congestion. The kidneys were large, weighing seventeen ounces. The cortical substance was hard and light colored, not atrophied, but the tubules were rather opaque, the medullary cones red, and the capsules not adherent. The other viscera of the abdomen and the brain were normal.

The chief points of interest in the case are: (1.) The enormous dilatation and hypertrophy, the heart weighing over two pounds, and the fact that so far as the patient knew he was in good health two months and a half before his death. It seems incredible that such disease of the aorta and aortic valves, and such extreme dilatation, with hypertrophy, should have been of recent origin, yet the patient, who, though a laboring man, was an exceptionally intelligent one, declared repeatedly that he was previously in good health. (2.) The absence of more extensive dullness on percussion over the cardiac area, which can be accounted for only by some backward displacement allowing the lung to overlap to a greater degree than usual. (3.) The presence at times of albumen and abundant casts, and again the absence of both. (4.) The use of digitalis, which is considered by many to be contra-indicated in aortic regurgitation. It is very certain that in this case its use was followed by a steadier action of the heart and by relief to the dyspnœa, making the patient's condition much more bearable. The hypertrophy, great as it was, was not sufficiently great to compensate for the aortic insufficiency and push on all the contents of the dilated ventricle. The digitalis gave this organ more firmness and steadiness of action, and by just so much relieved the over-distended auricle and the pulmonary engorgement.



INFANT MORTALITY.<sup>1</sup>

THE paper on Infant Mortality, contributed to the Report of the City Board of Health by Dr. W. L. Richardson, offers a clear exposition of our existing knowledge on this subject. It is well known that the most important part in the production of our excessive infant mortality is played by summer diarrhœa. Inasmuch as this disease does not prevail to any appreciable extent in rural districts, nor among the well-to-do classes in cities, it may be assumed to be largely preventable. Nevertheless, we must acknowledge, with Dr. Buchanan, "our singular ignorance of its causes and of the action to be taken for its prevention." To show how unsettled are the views regarding the pathogenetic conditions of this disorder, the four successive reports on Infantile Diarrhœa in Leicester (England) may be instanced. The first, drawn up by Dr. Sloane, attributed the fatality to impure milk. The second, by Dr. Buck and Mr. Franklin, concluded that the chief condition accounting for the high mortality was a water-logged subsoil. The third report was made by Dr. Crane, who was of opinion that solar heat was the chief factor in generating the disease. The fourth, and most recent report, by Dr. Johnston,<sup>2</sup> shows that in Leicester, through bad drainage, the subsoil becomes sewage-logged, a general impurity of the well-waters is established, and a state of matters is engendered highly inimical to health and most favorable for the propagation of disease. The gradients of the sewers are shown to be "frightfully insufficient," so that the sewers become choked and overflow after heavy rainfalls, saturating the subsoil with diluted sewage. The poisoned subsoil is constantly giving off noxious emanations, the baneful effects of which are made more disastrous — and consequently more apparent — by the influence of summer heat. To these conditions Dr. Johnston attributes the excessive prevalence of summer diarrhœa in Leicester, and the remedy which he proposes is, of course, a new and better system of drainage.

Almost all that we know with any certainty about the causes of infantile diarrhœa may be said to be comprised in the following facts: that the disease prevails almost exclusively among infants under one year of age, and only during the summer months; that the use of improper food — that is of any other food than breast milk — is largely concerned in its production; and that it occurs on a large scale only in cities, where it is most rife in the crowded dwellings of the poor, amid such circumstances as seem to suggest some form of putrefactive infection.

From these data, attempts have been made to construct a theory which should explain the origination of the disease. Since summer diarrhœa, on the one hand, does not prevail to any appreciable extent in rural districts, even during the hottest weather, and as, on the other hand, it is not observed even in the filthiest and most crowded cities during the prevalence of cold or cool weather, it was evident that neither excessive heat nor filthy surroundings were sufficient by themselves to generate the disease, the conjunction of these two noxious agencies being indispensable. It was therefore surmised that the

<sup>1</sup> *Fourth Annual Report of the Board of Health of the City of Boston.* 1876.

<sup>2</sup> *Medical Times and Gazette*, November 11, 1876, page 546.

ætiology of the disease might perhaps be somewhat as follows: that, by the action of solar heat upon filth, *miasmata* of a kind peculiar to densely populated urban districts were generated, whose poisonous influence was concentrated chiefly upon very young children, the inhalation of contaminated air being the instrumentality by which infection took place. A certain collateral part in the ætiology of the disease was also ascribed to the use of indigestible food, for it had been noticed that among the poor in cities breast milk was the only diet upon which infants thrived.

Certain researches, however, recently made by Baginsky, seem to help us somewhat towards a partial solution of the complex problem involved in the causation of infantile diarrhœa. A series of experiments was made by him with a view to ascertaining the comparative merits of the various articles which commonly compose the diet of infants. "His investigations," says Dr. Richardson, "were confined to an examination of human milk, cow's milk, Swiss milk (condensed milk), two varieties of farinaceous food, and two specimens of so-called prepared infant's food. After an exposure of these various articles of diet to a temperature of about 67°, for a period of twenty-four hours, he found that the human and the cow's milk remained almost unchanged, the Swiss milk, the two varieties of the farinaceous food and of the artificial food, although appearing still to be perfectly fresh and wholesome, exhibited on examination bacteria in active motion. The reaction of the human milk was alkaline, that of the cow's milk was slightly acid, while the farinaceous and prepared foods gave a very strong acid reaction. After a further exposure of eighteen hours, the cow's milk and the Swiss milk were found to be coagulated, while the farinaceous and prepared foods were in a high state of putrefaction. The human milk, however, still gave an alkaline reaction, and appeared almost unchanged.

The excessive harmfulness of an unsuitable diet under certain conditions of atmospheric contamination is strongly exemplified in the results of a recent inquiry into the causes of mortality in a London orphanage, where four hundred and two out of four hundred and eighty-nine infants received had died. Dr. Ballard, who conducted the investigation, stated in his report that the financial resources of the establishment being such as to forbid the engagement of wet-nurses, the infants were fed upon cow's milk, with the addition of lime-water when necessary; and that, moreover, the room used as a nursery was so ill-situated and arranged as to be incapable of ventilation. In all other respects the children were thoroughly well cared for, "but," says Dr. Ballard, "two of the prime necessities of life, a sufficiency of pure air and appropriate food, were wanting, and the poor infants died at the rate of eighty-two in the hundred."

If we may rely upon Baginsky's researches, the harmfulness of certain articles of food widely used as substitutes for breast milk, and known to play an important part in the generation of infantile diarrhœa, does not depend, as had been supposed, upon their indigestibility alone, but rather upon their liability to undergo early decomposition. In midsummer, under the combined influences of excessive heat and of contamination by filth, this tendency is aggravated to such a degree that the infant's food, when of an unsuitable

nature, is actually in a putrescent state when swallowed. It thus appears probable that the miasmata peculiar to crowded and filthy urban districts do not exert their acknowledged noxious action upon the infant directly, by inhalation, but indirectly through the intermediate instrumentality of putrescible articles of diet. The injurious agent, then, is rotten food taken into the stomach, rather than foul air breathed into the lungs.

Dr. Richardson cites the results of Baginsky's researches merely as additional evidence of the unsuitableness of particular articles of food, without attempting to draw further conclusions from the facts observed, the object of his paper being to present certain information in a somewhat popular form. These new data appear, however, to suggest a theory of the pathogenesis of summer diarrhœa, which, in the absence of any more satisfactory explanation of the phenomena, may perhaps be ventured upon. According to this theory the generation of summer diarrhœa is chiefly due to a single morbid agency, namely, the ingestion of more or less decomposed food, this contingency being itself dependent upon a combination of conditions, all of which had separately been recognized as deleterious to infant life. Each, then, of the successive investigators of infantile diarrhœa in Leicester was partially correct in his surmises, when incriminating certain harmful conditions. The solar heat cited by one, the impure milk adduced by another, the ill-drained and sewage-logged subsoil and the choked sewers brought forward by others, in explanation of the phenomena under investigation, were all but so many separate factors contributing to a common result, rapid decomposition of the infant's food.

This theory of infantile diarrhœa appears to account in a tolerably simple and at the same time comprehensive manner for nearly all the phenomena involved in the problem which it is intended to meet; it conciliates the diverse ætiological views hitherto entertained on the subject, and assimilates as so many concurrent factors the various morbid agencies whose harmfulness has already been unequivocally demonstrated.

The preventive measures indicated by this theory should be directed against each of the controllable factors concerned in the generation of infantile diarrhœa. Setting aside the excessive heat of our summers as being, of course, beyond our control and almost wholly unavoidable, the liability of the infant's food to be rendered poisonous by decomposition can undoubtedly be lessened, on the one hand, by measures designed to encourage and facilitate maternal lactation or wet-nursing among the poor; and, on the other hand, by such purification of the air as would result from establishing suitable provision for ventilation, house drainage, and public sewerage in the crowded districts of the city.

The measures proposed by Dr. Richardson for the reduction of the death-rate among infants are in accordance with these views, being as follows: (1.) Greater attention to the general sanitary condition of the city, and the adoption of an improved system of sewerage. (2.) The establishment of public parks and squares in and about the city. (3.) A systematic and frequent inspection of the homes of the poor. (4.) The dissemination of the rules which should govern the bringing up of children. (5.) The establishment of diet kitchens. (6.) The establishment of country homes. (7.) The establishment of infant

day asylums. (8.) The establishment of foundling hospitals. (9.) The isolation of contagious diseases.

Dr. Richardson's paper concludes with a carefully drawn up set of rules for the management of infants, which is designed for the instruction of the popular mind.

T. B. C.

## DEATHS FROM CHLOROFORM IN ENGLAND.

AMONG the numerous deaths from chloroform which have been recorded recently in the English journals, there is one which we are unable to pass by without criticism. The patient met with an accident last spring for which an arm was amputated at the University College Hospital, and the stump not having healed entirely he returned to the hospital for the removal of a fragment of dead bone. On the former occasion he had taken ether, but for this operation chloroform was administered. The patient, as is usual in these fatal cases, died suddenly, and without warning. A post-mortem examination showed fatty degeneration of the heart. The widow, we need scarcely say, was strongly impressed with the danger of chloroform, and expressed an opinion that the surgeons were not justified in its use. The resident physician, however, coolly informed the jury that this was a death from misadventure, and the jury returned a verdict accordingly. It would seem that the ghastly experience of late years, deaths from chloroform lately having been we might say almost of weekly occurrence,<sup>1</sup> has not been sufficient to raise a disaster like this above the level of a misadventure in the minds of our British colleagues. Americans are proverbially careless of life, but are notwithstanding more or less ready to accept the lessons conveyed by the inevitable penalty. We venture to say there is scarcely an operating theatre in the kingdom which has not witnessed one of these startling catastrophes, and yet the tone in which some of our contemporaries allude to an occurrence of this kind is one of an easy indifference, which cannot fail to strike the reader in this country as peculiar, to say the least. We must not neglect to mention in this connection that the *Lancet*, in a recent leading article on the cure of aneurism by complete temporary pressure, incidentally remarks: "The period of its application being comparatively short, the administration of ether would be justifiable if the pain which is generally complained of after a short time prove unduly severe." This is, indeed, an admission for which we were unprepared, coming, as it does, from a journal which has assumed so conservative an attitude in the question of a substitution of ether for chloroform, and which we are glad to see is now yielding to the irresistible argument of facts. In this country we may be said to have entered upon the "total abstinence" stage, as we learn from one of our New York exchanges that the commissioners have interdicted the use of chloroform as an anæsthetic at Bellevue Hospital.

<sup>1</sup> The last number of the British Medical Journal which we have received announces three more deaths from this cause.

## CERULIAN GREENNESS.

Now that the public mind is occupied with the silly blue glass mania the following passage by Addison, from the *Spectator* of May 24, 1712, may be interesting. The physiology is, to say the least, as good as General Pleasanton's, and the inference that nature is best adapted as it is to the general health of living creatures is, we think, at once sensible and scientific. "There are writers of great distinction who have made it an argument for Providence that the whole earth is covered with green, rather than with any other color, as being such a right mixture of light and shade that it comforts and strengthens the eye instead of weakening or grieving it. For this reason, several painters have a green cloth hanging near them, to ease the eye upon after too great an application to their coloring. A famous modern philosopher accounts for it in the following manner: All colors that are more luminous overpower and dissipate the animal spirits which are employed in sight; on the contrary, those that are more obscure do not give the animal spirits a sufficient exercise; whereas the rays that produce in us the idea of green fall upon the eye in such a due proportion that they give the animal spirits their proper play, and by keeping up the struggle in a just balance excite a very pleasing and agreeable sensation. Let the cause be what it will, the effect is certain, for which reason the poets ascribe to this particular color the epithet of cheerful."

We are not aware what the origin of the expressions "the blues" and "blue devils" may be, but they certainly are not suggestive of cheerful associations. We occasionally have to inform correspondents that in our editorial capacity we never prescribe, but we are tempted for once so far to depart from our rule as to suggest to hypochondriacs, who are always on the alert for new remedies, to try the effect of blue pill before investing in blue glass.

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MEDICAL NOTES.

— We regret to announce the death of Dr. C. E. Buckingham, professor of obstetrics in Harvard University, which took place on Monday last. He took his degree of A. B. at Harvard in 1840, and was graduated from the medical department in 1844. He was chairman of the Committee of Ethics of the Massachusetts Medical Society, where he did much efficient service.

The support which he has given to the *JOURNAL* of late years has helped largely to place it upon its present footing. For the last two years the pressure of active professional duties has told severely upon him, at times incapacitating him from all work. His death at a comparatively early age will be a great loss to the profession.

— We are authorized to state that, owing to the large number of dissertations offered in competition for the Warren Triennial Prize, their voluminous character, and the necessity for binding most of the manuscripts, a very long period must elapse before an award can be made.

— In an article on Poisonous Mushrooms, by Isaac Ott, M. D., published in *The Journal of Nervous and Mental Diseases*, January, 1877, the author arrives at the following conclusions: —

"(1.) That at least in one species, *Agaricus muscarius*, there is an alkaloid called muscarine: that *A. muscarius* also contains a base called amanitine, a non-poisonous body.

"(2.) That muscarine is a highly poisonous agent, and that it is probably the poisonous body in all mushrooms of a noxious nature, associated with another alkaloid.

"(3.) That in mushroom poisoning with the usual employment of emetics, stomach-pump, purgatives, and gallic acid, atropine should be given subcutaneously, say  $\frac{1}{100}$  of a grain, the dose to be repeated according to indications."

— A course of popular scientific lectures under the auspices of the Harvard Natural History Society will be held on Thursday evenings in the Saunders Theatre, Cambridge, beginning this evening, when Professor N. S. Shaler will give an account of the Climate of North America. Next Thursday Professor William James will lecture upon Recent Investigations on the Brain. The course consists of six lectures on successive Thursdays, and judging from the programme they promise to be exceedingly interesting.

— Professor Ludwig Mauthner, of Innsbrück, has retired from the chair of ophthalmology into private life. He contributed in 1868 the *Lehrbuch d. Ophthalmologie*; and in 1876 *Die optischen Fehler d. menschlichen Auges*, to the literature of that department.

— Dr. Lannelongue, of Bordeaux, imitating the method followed by Dr. Verneuil, has recently performed gastrotomy on a patient afflicted with an impassable stricture of the œsophagus. Five days after the operation there were no unfavorable symptoms, and the patient was taking food well through the gastric fistula.

## THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

MESSRS. EDITORS, — The Jefferson Medical College Hospital is so near completion that it will not be premature to attempt a description of this fine building. In giving its location I regret that I cannot say that it is on Broad Street, where it probably would have been if the funds of the college had permitted. There was much and warm discussion before the managers and the building committee could decide to place the hospital where it now is. Many, very many, good and strong reasons were advanced against the selection of this location. "It is an improper place for a hospital." "It is not sufficiently public." "The streets about the locality are too narrow." "The hospital could in this place never receive the proper amount of fresh air." "In such a cramped position, surrounded on all sides by other buildings, the death-rate of the hospital will be excessive." "It is simply an absurdity to erect a hospital in such a place." "In fifteen or twenty years we shall have to move elsewhere and be forced to erect another hospital." "If we have n't funds enough at present to warrant building on a vacant Broad Street lot, then let us wait a dozen years if necessary," and so forth. After much debate the decisions reached were that now was the time for building; the college could not wait another year; it could not afford to buy land on Broad Street; the locality

proposed was very near the college, and hence convenient for all concerned, etc., etc. So the fiat went forth, the land was purchased, and in January, 1876, ground was broken for the hospital. The college building stands on the west side of South Tenth Street; on its south side is a narrow street, Medical Street; on its northern side a block of ordinary buildings, which separate it from Sansom Street; on its western side a cluster of small, cheap houses, which stand directly between the college and the new hospital. The building committee have vainly tried to buy the land which forms this hiatus; but as has often occurred in similar cases the owner will not sell at any price within reason. Hence the hospital stands perhaps one hundred feet from the college building, bounded on its northern side by Sansom Street (upon which also open the back doors of Chestnut Street stores, flanked by small dwelling-houses, carpenters' shops, etc.); on its western side by Juvenal Street, a mere alley-way which admits the passage of a single vehicle only at a time; on its southern side by Medical Street, also a narrow way, upon the opposite side of which open back gates; on its eastern side are the buildings before mentioned, which separate it from the college building. Fortunately, the buildings which surround the hospital are in almost every case only two or three stories in height, so that when you reach the main wards, on the third and fourth floors, you find that nothing intercepts the view, that both breeze and sunlight pour in without let or hindrance, and that patients will have a superb outlook over the city. It may be that a better location could have been chosen; but the hospital is central, students will lose no time in going to and fro between college and hospital, and in case of accidents, or of need of medical aid, in the heart of the city, here is every convenience close at hand. As regards the probable death-rate of this hospital much will of course depend upon the manner in which it is kept. Perfect cleanliness, abundance of sunshine, constant draughts of pure air, good ventilation, and unceasing vigilance against various infections are what tell the story in the long run in any hospital. They are of more worth than architects' ingenuity or builders' skill, and all of these aids this hospital can have. Hence I see no reason why it should not have a death-rate as low as that of any other city hospital. But I must express the regret that there is no garden, and consequently no lounging place or promenade out of doors for future patients. In time, however, this may be remedied. As the funds of the college increase, land for a garden can be purchased. As it is, a pressing appeal to the state legislature for an additional \$100,000 has just been made, and it is earnestly hoped that the response may be favorable, especially so in view of the fact that a committee from the state congress has within a few days visited the new hospital. The members were delighted with all they saw, and went away with a new and deeper interest in the welfare of the college and hospital.

To turn now to the building itself. It is a noble structure, very handsome and sightly. The architects were Messrs. Furness and Hewitt, of Philadelphia. The style of architecture may be termed eclectic, not being modeled after any one school. Mr. Furness has evidently depended upon his unfailing originality, and as usual has given universal satisfaction. The material of which it is composed is "stretched" brick, with Ohio stone trimmings. The bricks are

laid in black mortar, which gives the effect of dark pointing. There are five stories and a roomy basement. The ground-plan measures one hundred and twenty-seven by one hundred and seventeen feet. Entering by the main door from Sansom Street we find ourselves in a vestibule which opens into a corridor eleven feet three inches in width. This corridor crosses the whole breadth of the building, and terminates in an opposite entrance on Medical Street. On the right of the Sansom Street entrance is a janitor's room; at the right of this a spacious apothecary's apartment, which occupies the northwest corner of the building on the first floor. Over this, on a half story, are the apothecary's sleeping rooms, etc. Passing along the main corridor, the next apartment on the right is the "reception room" for all out-patients. Here they will be assorted and afterward sent to the surgeon, physician, obstetrician, etc., as the case may require. This room measures about thirty-five feet by twenty-eight feet, has two large windows, and in opposite corners spacious water-closets for the two sexes.

The next right-hand door from the corridor admits us to the surgeon's room. Here, at his hour, he will find patients who have been sent in from the reception room. Opening out of this is his private room, where he may examine single patients, or even private patients if he so choose. Every one of these private rooms has its washing and water-closet conveniences. The next opening on the right of the corridor is the main stair-way, which, being the same on every floor, I will describe *in toto* here. When we reach the lower landing, in going along the corridor, our feet leave wood and strike iron, for this and every other landing up to the roof is of solid iron. The stairs are iron set in stone and brick. The railings are of the same metal. The stairs wind around an iron and heavy wire elevator which ascends to the fifth story, thus virtually doing away with the stairs in so far as the patients and visiting physicians are concerned. The lower landing leads also to a short flight of steps which end at the Juvenal Street door. On every main landing of the stair-way are two large fire-plugs, to each of which a coil of hose will be kept constantly attached. These fire-plugs are connected with large Worthington duplex steam-pumps in the basement, which can force water all over the building. The plugs also have the pressure of water from an immense iron tank in the fifth story which will always be kept full, and they receive water directly from the street mains. It can hardly be possible, then, in case of fire that an abundant supply of water would be lacking. It will thus be seen that the main stair-way is a veritable fire-escape which, if need occur, can be kept deluged with water. Behind the stair-way (first floor on the right) are the dining and sitting rooms of the officers of the house. These are reached from the floor above by a private staircase, and occupy the southwestern corner of the building. Returning now to the Sansom Street entrance of the corridor, we find on our left a small waiting room for medical out-patients who are to go before the students. Across a passage way is the medical lecturer's private room. The only other left-hand opening out of the corridor leads into store-rooms. When we again reach the iron stair-way we turn to the left into a passage way, on the right hand of which are the medical, obstetric, and eye apartments, each having its private room. The oculist has also a third, the "dark



room," in which to use the ophthalmoscope. These rooms, together with the officers' rooms before mentioned, occupy the southern portion of the first floor house. This space is entirely filled by the noble lecture room and its ante-We have a remaining large space north of these rooms into which the passage way opens, and which extends to the northern or Sansom Street side of the rooms. The latter are on the left of the waiting room already mentioned as being on the left entrance of the corridor, and consist of a second, the surgical waiting room, surgeon's private room, and an apartment for private operations or examinations. These have nothing in common with the surgical and medical rooms on the other side of the house. Entering now the lecture room we find ourselves in an apartment in the form of an ellipse, with seats ascending in rows to the top of the building; for the lecture room is an independent structure, having its own sky-light, and completing the square, the other two sides of which are formed by the main building and its southern wing. The latter, of course, are several stories higher than the lecture room. An arc of the lecture-room ellipse, over the private entrance, has no benches. This space was thus left unoccupied at the suggestion of Professor Gross, in order to spare the lecturer the necessity of constantly turning round to address the students in the rear, as he must do in the old amphitheatre in the college. The benches here are of poplar, and are very comfortable, the seats being seventeen inches and the backs twenty-five inches high. In order to make it convenient for the students of one row to look over the heads of their fellows in a front row, an allowance of eight inches above the eyes of a person of ordinary height when sitting was made for each row. A common annoyance was thus avoided. The "bull-ring," as everybody here calls it, will have a revolving table. Water is abundantly provided, and the sink for washing sponges, etc. is furnished with a four-inch waste-pipe, expanding at its upper end and covered with two grated valves, which are eight inches apart, a New-York invention, and very convenient. The room has twelve wall-ventilators, iron roof-girders, a double glazed roof with palace-car top, the windows being easily managed by cords from below. Students enter from the second story of the southern wing of the hospital about half-way up the seats. Opposite the lecturer's entrance is a second, by means of which patients will be brought into the room on a wheeled platform, to which they will be moved after being brought down from the wards on the elevator, bed and all. The lecture-room will seat six hundred to six hundred and fifty students, has abundance of window-light, and is, all in all, the finest amphitheatre of which I have any knowledge. Beneath the benches are several rooms which will be used for storage purposes.

Ascending to the second floor of the hospital we find the same arrangement of main passage ways running south, then east. At the Sansom Street end are two bath-rooms, then going south, four large rooms, three of which will be devoted to special cases or classes of patients; the fourth will be used as the superintendent's business room. In the southwestern corner, beyond the fire-escape, are the janitor's rooms, five urinals with glass backs and flag-stone floor, and five water-closets for the use of students. From this point, going east, are four other small, special wards. It is from the main passage way,

just here, that students enter the lecture room. Mounting to the third floor we come upon the main wards of the house. One of these occupies the southern wing and runs east and west. The other occupies the western wing and runs north and south. Each ends at the fire-escape, in the corner beyond which are three bath-rooms, two water-closets, nurses' special diet kitchen, and a steam-closet, lined with glass, and having a door made perfectly air-tight by means of strips of rubber. This steam-bath is for the use of skin cases, and is modeled after those in the New York Hospital. In the angle on the northeast of the passage ways are linen closets and store-rooms. One ward is about seventy feet long by forty feet wide. The other about five feet smaller each way. In one there are six iron columns as supporters, in the other three. There will be about two thousand cubic feet of air to each bed. The wards are ventilated by what is known as the "up-and-down" system, which may be explained as follows:—

In order to secure dryness the wards have double walls. Between them are foul-air ducts with openings from the wards near the ceiling and at the floor. These foul-air ducts, which have been put in as plentifully as space permitted, run straight to the basement, turn at right angles beneath the cement floor, and terminate in the big stacks or chimneys, within each of which is a large iron pipe kept constantly hot by means of a heated current from the furnaces. In this way the foul air around the pipe becomes heated, ascends, and thus produces a movement which acts on the air in the wards. That this system is thoroughly effectual has already been accidentally proved. The wards one day became filled with smoke. Soon after it was seen issuing from the chimneys in which are located the foul-air shafts. Fresh air enters the wards in two ways: first, cold air enters directly by means of gratings inserted in the walls beneath each window. Directly in front of each opening stands a radiator heated by steam. The cold air from without becomes warmed while passing over these radiators. Secondly, fresh air enters the basement by large ducts, is there heated, and afterward driven up into the wards, which it enters by means of the ordinary register. At each end of each ward is a brick fire-place for the purpose of further purification of the air. One corner of each ward is partitioned off, and will be used as nurse's chamber. The wards and especially those on the fourth floor are above the level of surrounding buildings, have a flood of sunlight, abundance of air, and a fine outlook as well. The floors are composed of narrow strips of hard pine, smoothly planed, and are to be thoroughly shellacked. In these apartments as well as in every other place where there are water-pipes, the latter instead of being out of sight beneath the floors or behind the walls are all in full view. Of course they do not add to the beauty of the interior arrangements but the object in thus placing them is practical. In case of needed repairs, a leak or other trouble can be found at once, and remedied without necessity of tearing away wood-work. Every ward has a dumb-waiter which runs down to the basement. The fourth floor is precisely like the third. The fifth floor will be kept for the use of private patients. There are ten chambers, five on either side of the passage way, each more spacious than a single room in a hotel. Near by are the bath-room and three water-closets, large linen and other closets, nurses' room, etc. On

this floor are also the parlors and chambers of resident physicians and matron, with private bath-room, etc., to each suite. From the top of the building and running down to the basement is an immense tin tunnel, which opens on each floor, and which will be used as a "soiled-clothes chute." It is easy to see the convenience of this ingenious aid. It will, too, in a measure, promote the good health of the hospital. On the fifth floor the nurses' room has an annunciator to indicate in which of the private rooms the bell has been rung. The nurses' room communicates with the resident physicians' room by means of speaking-tubes, which also run down to the apothecary's department. There are also electric bells all over the house for the use of the superintendent, physicians, lecturers, etc., and the speaking-tubes run to every floor.

Finally the basement. Without giving its plan I will mention its uses and conveniences. Its main centre is occupied by the boiler room and rooms for coal and wood. The sides of the basement are occupied by patients' smoking and recreation rooms, floored with cement; servants' rooms floored with wood and having bathing and other conveniences attached; servants' dining-room, large store and china closets floored with lithogen; a large kitchen well ventilated and supplied with every contrivance for cooking; spacious laundry, ironing and drying rooms, and pantry, all floored with lithogen; also the dead room. In the basement are two boilers, respectively forty and sixty horse-power, and two engines of fifteen horse-power, one of them high and the other a low pressure engine. One is used independently for the elevator, the other runs the washing and wringing machines and the mangle in the laundry. All the machinery can be run from either boiler. We also notice on every hand "man holes" which will serve the purpose of cleansing the foul-air ducts. Attached to every water-closet in the house is an invention by means of which every basin receives a certain amount of carbolic acid whenever the water is turned on. The whole structure is heated by steam. The walls throughout the building have a hard plaster finish. The main roof has a palace-car top, double glazed, and there are proper facilities for opening and closing the drop windows from below.

The land on which the building stands cost \$45,000, the cost of the building was \$94,000, of steam and gas fitting and heating power, \$18,000, and bills for furnishing, etc., will probably make the total amount for the building, exclusive of land, \$140,000 to \$150,000.

If I have made myself clear, I have shown you that this hospital comprises every possible comfort and convenience, and that, although located in the heart of the city, its possibilities are not surpassed by those of any other city hospital. The building committee includes besides some of the trustees of the college, Professor Da Costa, Drs. Frank F. Maury, John Brinton, and Ellwood Wilson. Drs. Maury and Brinton have been especially and constantly active in superintending and planning the arrangements of the hospital, and to the former gentleman I am indebted for the ready courtesy with which he supplied me with many of the details of my letter. As yet, the time for the inauguration of the hospital has not been fixed, but some demonstration will probably occur before the winter class is dismissed.

H. O.

PHILADELPHIA, *February 6, 1877.*

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEBRUARY 10, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	423	20.42	27.46
Philadelphia	850,856	270	16.50	22.88
Brooklyn .	527,830	200	19.70	24.31
Chicago . .	420,000	155	19.19	20.41
Boston . .	363,940	127	18.15	23.39
Providence	103,090	22	11.11	18.34
Worcester .	52,977	20	19.63	22.00
Lowell . .	53,678	23	22.28	22.21
Cambridge	51,572	15	15.12	20.54
Fall River	50,370	19	19.61	22.04
Lawrence .	37,626	7	9.67	23.32
Lynn . .	33,524	9	13.96	21.37
Springfield.	32,976	3	4.73	19.69
Salem . .	26,739	12	23.34	23.57

SUFFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held at the rooms, 36 Temple Place, on Saturday evening, February 24th, at seven and a half o'clock. The following papers and cases will be read: —

Dr. D. Hunt, Obstetric Forceps.

Dr. E. W. Cushing, Plaster-of-Paris Bandages.

Dr. C. B. Porter, A Case of Vesical Calculus in the Female. Removal of Bougie from the Bladder, complicated by Stricture.

Tea, etc., at nine o'clock.

A. L. MASON, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Second Report of the Salem Hospital. Salem, Mass. 1877.

Fifth Annual Report of the Board of Trustees of the New York Ear Dispensary. New York: G. P. Putnam's Sons. 1876.

Boston Society of Civil Engineers. Report of Standing Committee of the Metric System of Weights and Measures, December, 1876.

The Metrical System in Prescriptions. By John M. Maisch. (From the American Journal of Pharmacy.)

Transactions of the Wisconsin State Medical Society, 1876. Milwaukee. 1876. Pp. 149.

Annual Report of the New England Hospital for Women and Children for the Year ending September 30, 1876.

Case of Ovariectomy. By David Prince, M. D., Jacksonville, Illinois. (Reprinted from the St. Louis Medical and Surgical Journal, December, 1876.)

The Sanitary Relations of Hospitals. By William Pepper, A. M., M. D. (Extracted from the Transactions of the American Public Health Association.)

An Address by Dr. William S. Ely, as Retiring President of the Medical Association of Central New York, at Rochester, May 16, 1876.

We have received from George T. Brown & Co., 6 Beacon Street, a neat little case-book, of the size of a prescription paper and containing two "blocks," one for use in writing prescriptions, the other, on the opposite cover, containing blanks for the register of the name, age, etc., of the patient, and a copy of the prescription. A monthly visiting list is also attached. With the book is a practical illustration of the metric system prepared by Dr. Francis H. Brown.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## THE LAW OF CORONERS.<sup>1</sup>

BY THEODORE H. TYNDALE, COUNSELOR AT LAW.<sup>2</sup>

MR. CHAIRMAN AND GENTLEMEN, — The subject of coroners and coroners' law which we are about to discuss this evening has lately excited a good deal of attention both in England and in this country. The immediate cause of this attention in both countries has been the same in both, the proceedings in recent cases have been of a nature to lead many persons to doubt the propriety of the existing laws and of the procedure under them, and to inquire into the advisability of a change in the constitution and the conduct of the coroner's court.

It is my pleasing duty to place before you briefly the laws on the subject now in force in this Commonwealth, to notice the proceedings and practices that have grown up under them, and thus to open the way for your discussion of the remedies, if there be any, that may seem desirable.

The office of coroner is one of very remote origin. In England it could formerly be held only by "lawful and discreet knights." His functions were originally those of a conservator of the peace, and generally a ministerial deputy of the crown. He took the place of the *shire-reeve* (our present sheriff), or governor of the Count, during his absence or incapacity. Part of his duty was the collection of the revenues; to "inquire of wrecks and of royal fishes, such as sturgeon, whales, and the like;" he took charge of forfeits to the crown of such moving articles — cattle, horses, or wagons — as directly contributed to the death of any person; and finally, he came to represent the crown in criminal cases where a dead body was found and violence or crime was suspected. With an exception hereafter to be noted, the latter duty is the only one with which, in this country, he is now charged, and which at present concerns us. The constitution of his court, the conduct of proceedings before it, and the manner of his appointment are the same now in England as they were in the time of Elizabeth. In this country the

<sup>1</sup> Read before the Department of Health of the American Social Science Association.

<sup>2</sup> The writer desires to acknowledge his indebtedness in the preparation of this paper to the admirable address of Mr. Hershell, Q. C., M. P., delivered before the British Social Science Association, at Liverpool, in October, 1876.

only change has been in the manner of appointment. From time immemorial the coroner has been assisted in his investigation into the cause and manner of a violent death by a jury. Differing from time to time in the number composing it, it was always summoned from the immediate neighborhood of the place where the dead body was found, and still must be "of the county." Formerly the jurors were summoned as witnesses or accusers rather than as judges. Until the fifteenth century the jury themselves were the witnesses and the only witnesses, they being selected with reference to their knowledge of the facts, and no other witnesses being examined and no evidence whatever being offered to them. Though no longer selected for the purpose of obtaining from them the facts in the case, nor at all likely in towns or cities to have any previous knowledge of the facts, they are to this day sworn to return a true inquest according to their knowledge and such evidence as shall be laid before them. With this brief outline of the coroner's historical position, let us now pass to the actual position he occupies under our laws.

Coroners are appointed by the governor and council. They give bond in the sum of five hundred dollars, and are sworn. If on view of a dead body found the coroner deems it necessary to hold an inquest, he does so upon being authorized in writing by the attorney-general, district attorney, mayor, chief of police, or the selectmen of the town in which the body is found. In cases of railroad accident no such authority is necessary. The coroner issues a warrant to some constable, who summons six men of the county as a jury. If six do not appear, the number is completed from the by-standers. No person is allowed to serve on the jury oftener than once in twelve months. The inquest may be secret with the consent of a majority of the jury, and the witnesses kept separate. The testimony of the witnesses is required to be written down by the coroner or by some person at his direction, and signed by the witnesses. The verdict, the written evidence, and all recognizances and examinations taken by the coroner must be returned to the superior court within thirty days. If the jury find that a murder, manslaughter, or assault has been committed on the deceased, the coroner may bind over the witnesses or commit them, and if the person charged with the offense is not in custody the coroner may issue a warrant for his arrest.

Coroners hold their commissions for seven years. Their fees are, for a view, four dollars; for an inquest, five dollars for the first day and four dollars for each subsequent day. Witnesses get the fees allowed in a justice's court. The person writing the testimony gets one dollar and a half per day. The constable for summoning the jury and attending the inquest gets two dollars per day. A surgeon or chemist may be employed by the coroner to aid in the investigation. He receives

what the coroner certifies to be reasonable. The practice is to allow thirty dollars for an autopsy and fifty dollars for a chemical analysis. When no coroner lives in the place any justice of the peace may perform his duties. Property found on or near the dead person is taken charge of by the coroner, who must deliver it to those entitled to its possession.

The district attorney must be notified of an inquest when the coroner thinks a murder or manslaughter has been committed. He may attend and examine and bind over witnesses.

In every county two special coroners may be appointed, who alone can take the sheriff's place. When the sheriff is a party to proceedings, or the office is vacant, these coroners serve process and perform his duties until a new one is appointed. These special coroners give bond "to the satisfaction of the superior court." Coroners are removable by an address of both houses of the legislature to the governor. In case of breaking their bond to the injury of any person, if the execution is not paid in thirty days a proceeding for removal may be begun before the governor and council.

In practice a person desiring an appointment as coroner presents a petition more or less numerously signed, with one or more names of men of presumed respectability upon it; this is handed either to the councilor for the district in which the applicant resides, or to the governor in person. In the latter case the petition is referred to the councilor for the district for his investigation and report. Upon his favorable report the applicant is appointed. Sometimes a verbal application alone is made, and personal representations of friends are quite frequent; indeed, they are the rule.

The *appointment* of certain officers is supposed to be preferable to their *election*, by reason of the independence and the better class of material thus to be secured, since election is a matter of popular favor, of chance, and party ascendancy, and is no guarantee of proper qualification for office, while appointment permits selection for quality and fitness. Practically, it is impossible that the appointing power should be personally acquainted with individuals to be appointed when their number is large; thus the benefits arising from this system within certain limits are liable to fail beyond these. In such cases personal judgment of quality is necessarily supplanted by reliance on the representation of others, and thus the element of risk enters. No amount of care can then obviate all mistakes, and if mistakes occur it is not the fault of the appointing power, but of the law requiring the exercise of discretion beyond its natural bounds. The first thing that attracts attention in the law is that it fixes no limit to the number of coroners that may be appointed, and in practice this attention is justified by the facts.

The following figures will illustrate the outcome of this feature of

the law : London, with its enormous population, has *four* coroners ; New York, with a population three times that of Boston, has *four*, with one medical deputy each ; Brooklyn, with a population one third to one half greater, has *two* ; Philadelphia, New Orleans, and Chicago, *two* each ; San Francisco, Baltimore, Washington, and Cincinnati but *one* each, — a total of twenty-four for all these large cities taken together.

Suffolk County, consisting chiefly of Boston, has forty-seven coroners, of which the city of Boston alone has, or had a week ago to-day when I copied the record, forty-three, almost twice as many as all the above-named cities combined !

What results can you reasonably expect from such an unlimited, indiscriminate distribution of office ? Will it not naturally tend to deteriorate the quality, and thus lower the tone of the whole body ? We might fairly assume that in time no person fit for the office will accept one which is given away to any and every comer. Without here calling in question the personal probity or fitness of any person now holding the office, and without denying that it is still held by many worthy and competent gentlemen, it is not venturing too much, perhaps, to say in general terms that the standard of quality has been lowered. This is recognized and felt most severely by those *in* the office who are qualified and fit for it, but are conscious that the practices of others have brought the office to the verge of disrepute.

Of the forty-three coroners in Boston, thirty are regular physicians and members of the Massachusetts Medical Society, two are registered as members of the Massachusetts " Eclectic Medical Society," seven are what is known as " other physicians," while four are non-professional gentlemen. Of these last, one is an auctioneer, another an insurance agent and broker, a third vends patent medicines, while the fourth figures simply as " notary public and coroner."

Now, how important is it to have men of superior character to fill the office ? What does its possession entrust them with ?

You have in the coroner an officer armed practically with the utmost powers of the law. He decides in the first place, upon his discretion, whether an inquest be necessary or not ; it is obvious how large are the opportunities for corruption in this direction : that for a man whose cupidity or possibly culpability and fear are stronger than his honor and integrity, it would not be difficult to thwart justice and close the door to all judicial investigation of a crime by corruptly declaring an inquest unnecessary, and even aiding in the removal of suspicion and the concealment of the evidences and traces by authorizing a speedy burial. But if he may thus on the one hand shield the guilty and endanger the public safety, on the other the opportunities for a man prompted by malice or vindictiveness or the desire of cheap notoriety are enough, truly, to make us tremble. With full judicial powers of examination and com-



mitment, with his chosen constable selecting his own jury, with supreme control of the investigation, which with the consent of part of his jury he may make secret, with the selection of his medical witness, and the power to summon and hear or omit and exclude whomsoever he will, uncontrolled by superior authority and responsible practically to no one for his action, he may bring ruin upon a life, or forever cloud and embitter it, throwing suspicion on the character of the living and blackening the memory of the dead; he may oppress and harass a stricken household without cause and without justification, — in one word, he may make an inquest in the worst sense of the term an *Inquisition*.

Will you entrust such powers to a man of any but the highest character, — whose integrity is above reproach and above suspicion? This you cannot be sure of by unlimited appointment; and such an office as I have described should surely not be given to one whose past life and character are such as to fail to inspire confidence in his disposition to resist dishonoring proposals or the belief that he is free from fouler motives.

I propose, therefore, in the first place, a reduction in the number of coroners.

As a matter of fact the inquests in Boston, notwithstanding the large number of coroners, are mostly held by some six of them. The constant practice of other cities proves that a smaller number will suffice for all wants.

By such reduction, besides preventing a great danger and present evil, you gain corresponding positive good: 1st. Each individual of a smaller number of appointees may be personally known by the appointing power, as *are* all the judges appointed in this State. 2d. You increase the dignity of the office and awaken that jealous public attention which always watches the appointee to a trust of dignity and importance and scans his qualifications. Whether there should be one chief with deputies, or several with coördinate powers, is an open question. It seems to me there is more likelihood of even excellence by making several co-equal appointments.

A few words as to the practice in regard to the jury. The constable being chosen by the coroner is not likely, as human nature goes, to exert himself unnecessarily, or to conflict with his views or desires in selecting the jurors whom it is his duty to summon. Except in cases where public attention has been pointedly aroused, the class of men chosen to act as jurors is proverbially inferior in moral standing and intelligence. The books teem with stories of their ludicrous and absurd verdicts. The hangers-on of the constable's office are generally in requisition. Previous to 1860, indeed, the business of professional jurymen had grown to such extensive proportions that it was found necessary to enact a provision that no man should serve oftener than once in

twelve months. But even now a deficiency in the number of jurymen may be made up from "the by-standers."

The jury are to give a verdict. In practice I do not believe the jury do this once in ten times. The coroner suggests and even has written out beforehand, in appropriate language, the verdict that his judgment approves. This is submitted to the jury, and in most cases accepted by them without dissent. I once had the honor of officiating as foreman of such a jury. After the evidence had been heard, to the utter surprise of one of us, the coroner, who was standing at that moment in another part of the room, said: "This is all the evidence, gentlemen; the clerk has drawn up a verdict in accordance with the facts, which he will now read to you." And really that clerk had found our verdict before we had. But then he was an experienced clerk.

The usefulness of the jury, when judged by its work, is not apparent. Nurtured in tradition and deriving most of their store from its sources, lawyers are naturally attached to what is old; but for one I do not favor circuitous modes of action where direct ones answer the same end. Now here is an opportunity too good to be lost for straightening a very roundabout road.

The coroner notifies a constable, the constable summons a jury, the jury are sworn, the body is viewed, the testimony is heard, the verdict is returned, — and what do you do with it? Absolutely *nothing*! We get together a number of men, we inform them of certain facts and ask them to draw a conclusion from those facts, and for what purpose? Their verdict is not conclusive, it is not evidence, and is not even used at the subsequent trial; the statements there made by the witnesses are not evidence, the prisoner is not bound over upon it, nor until after a rehearing of the whole matter in the criminal court. Well, then, to what end is all this needless machinery and expense? To furnish an item for the evening press? Is there any service to the State? Is there any additional safety to the individual? I apprehend not; and we shall see farther on that there *is* a material and grave danger. The safeguard of the jury is interposed between the interests of the two, upon the trial; the accused has all the protection of that mighty bulwark of liberty there, and the coroner's jury does not add to it one particle. Whatever the verdict, the courts proceed without and independently of it in this country.

In England, the coroner, when a verdict accuses any one, still does bind him over to appear at the next assizes; but there is instituted a parallel proceeding by indictment in the regular courts, upon which alone he is tried. And if the courts, finding no cause to indict, discharge the prisoner, he is nevertheless bound to appear at the assizes to which the coroner's action referred him, and be there discharged. This extent of solemn and meaningless mockery does not obtain with us

- We simply do *nothing* with the coroner's verdict, without the pretense of doing *something*.

Here the coroner practically never binds over a suspected person, he being almost invariably in custody before the coroner knows anything about the matter. So that the coroner and his court, judicially considered, are a meaningless, but, as we have seen, by no means harmless anomaly. They serve no purpose, no results flow from their work, and they cause danger, evil, and expense.

Upon these grounds, therefore, I advocate the abolition of this useless body.

Having before determined the question of the character necessary for a coroner, let us turn our attention to his qualifications. One important fact must be kept steadily in view: THE SOLE PURPOSE OF THE CORONER'S INQUEST IS THE DETECTION OF CRIME. With a death unaccompanied by circumstances of suspicion the coroner has no concern. When such suspicion exists his functions are twofold. One is to determine with certainty whether the death has resulted from natural causes or from violence. By the term violence I here mean not only physical force, but poison and all means of death not in the ordinary course of nature. The other is to determine, if it be found to be a case of violence, how that violence was caused, and whether it constitutes a crime or not. One is a question of medical investigation, the other a question of legal determination. One is answered by a physical examination, the other by an inquiry into external facts, and the application of the laws to those facts. One is essentially the function of a physician, the other essentially the function of a lawyer.

I am not going to offend your ears by saying that the office is a judicial and not a medical one. It is composite, being neither judicial nor medical, because it is both, — a nondescript. Nor am I going to assert that it should be held by a lawyer. I only ask you to accompany me into an examination of the functions of the office as just indicated; these once clearly understood, the much-disputed question will decide itself. Let us only clearly understand the duties involved in its performance, and the respective relations of medicine and law to them, and all dispute is at an end.

What takes place when an inquest is held? In the first place the coroner decides whether it be necessary to hold one. This is clearly a matter of medical science, as the appearance and inspection of the body must chiefly determine it. Does he decide one necessary, the next thing is to convoke a jury to examine into the facts relating to the death. This is a matter of hearing testimony from witnesses; and the very statement of this function shows it to be clearly legal. One part of the facts to be heard by the jury is the condition and appearances of the body, and the scientific deduction from these; this again is evidently

only a medical field ; one part of the jury's duty is to make up a verdict upon the facts ascertained by evidence, and the law applicable to those facts as laid down by the coroner ; this again is a province clearly legal. Whether a given death result from natural causes or not, so far as the body indicates, the physician's examination is competent, and alone competent to decide ; whether, the fact of violence being established by such examination, that violence constitutes a crime, and if so, what crime, the testimony of witnesses to external facts and the law applied to those facts alone can determine. In technical language, whether a homicide has been committed or not is a medical question ; whether that homicide be justifiable homicide, or manslaughter, or murder, is a legal question.

Briefly, then, the physical examination is the physician's business ; the passing upon the admissibility of evidence and the laying down of the law is the lawyer's. It would be as absurd and out of place for the latter to undertake to pass upon the very intricate questions of anatomy, physiology, pathology, and chemistry involved in the one, as it would be for the former to attempt to decide the equally delicate questions of law including considerations of the competency and validity of evidence, of the limits of self-defense, and of the nature and degree of crimes, which constitute the other. No lawyer is competent to answer the one, and no physician is qualified to answer the other ; and a man understanding fully the nature and scope of his own profession ought to shrink from assuming the dangerous responsibility of practicing another. Now, is it possible for one man to unite in his person the knowledge and qualities requisite for both ? Apart from human limitations I need point out only that science is armed with a microscope, while justice is blind ; that the mind and temper of a physical investigator and witness are not the mind and temper of a judicial officer, who never comes in personal contact with the facts, but receiving them from others calmly balances them and passes judgment ; that a witness is and must always be to some extent a partisan, and that it is as improper to permit the medical witness to take the other evidence, as to permit any other witness to act also as judge.

I am aware that when inquests are held and an autopsy is made, the coroner generally has some other physician to do it and be the medical witness ; but in that case, the balance of the functions being wholly judicial, it is not apparent why their discharge should not be entrusted to the usual agencies employed in the discharge of judicial offices, nor why a medical gentleman should be chosen to do a lawyer's work. The judicial functions do not properly begin until crime is suspected ; and when it is, the physician's office, save as a witness, ceases.

These considerations have brought me to the conclusion that the duties now performed by the coroner should be imposed upon, and

powers he now exercises should be vested in two distinct persons, one a medical man, the other a lawyer.

I do not propose the subjection of the one to the other, but that each should perform the duties pertaining to his office, and proper to his profession. The rooted inconsistency of joining these opposite duties has constituted the most formidable obstacle to progress. I propose, therefore, now to dis sever this incongruous union.

Two medical officers should suffice for Boston. In the country the persons now serving as coroners would in many instances be the proper persons to act as medical officers. The medical officer should go to the spot where a dead body is found, and should decide in the first place whether or not the death resulted from natural causes, from an inspection and if necessary autopsy of the body, before making which he should call a number of persons to note the position and appearance of the body, which he will disturb by the autopsy. He should make a written statement of his examination, — for the sake of greater accuracy and subsequent certainty, — and if he should find that death resulted from other than natural causes, he should at once notify the judicial officer, who should thereupon proceed with the further investigation. Policemen and detectives could then, as they do now, “work up” the case, that is, gather all information to be acquired; persons from the neighborhood would then as now interest themselves in assisting this search for facts, and thus there would be no want of witnesses. That useful executive officer, the policeman, who is almost always in charge before the coroner is notified and arrives, should be kept there to see that everything remains *in statu quo*.<sup>1</sup>

Of course you must make the judicial officer independent of the medical, so that in cases where the latter deems no judicial inquiry necessary, but such information reaches the former as to make him think otherwise, he may order the same or some other medical officer to make an autopsy, and may proceed with the investigation. The duties entrusted to these officers being of the greatest importance, we are undoubtedly all agreed that they must both be men of the highest character. I count upon your unanimous assent when I say further that the duties to be performed by the medical man require for their proper performance more than average skill and special training. The location and appearance of wounds, whether so situated as possibly to be self-inflicted; whether the condition and nature of wounds or abrasions indicate their infliction before or after death; the position of the body with reference to apertures in the building; the condition of the internal organs; the age and sex indicated by remains, — all these, and the

<sup>1</sup> The need of a public prosecutor — not to conduct proceedings already begun, but to put the machinery of the law in operation and see to the gathering of evidence — is becoming more and more clearly recognized; at present this duty devolves upon no one, the policemen and detectives performing it chiefly of their own motion.

almost infinite diversity of anatomical, physiological, and chemical details and questions that may arise in different cases require special experience and minute and accurate knowledge.

Most of the unfortunate blunders known as judicial murders have resulted from the inexperience or ignorance of the medical men engaged in the case either as witnesses or coroners undertaking to decide medical questions. Sometimes the consequences have been harmless, comparatively, and the stories are amusing; but too often they are tragical, and have a fatal termination. A few of these may serve to enforce this point.

Marc Antoine Calas was the son of John Calas, a merchant of Toulouse, aged seventy years, of great probity, and a Protestant. This son was twenty-eight years of age, of a robust habit, but of a melancholy turn of mind. He was a student of law, and becoming irritated at the difficulties he experienced (in consequence of not being a Catholic) concerning his license, he resolved to hang himself. This he executed by fastening the cord to a billet of wood placed on the folding-doors which led from his father's shop to his store-room. Two hours after he was found lifeless. The parents, unfortunately, removed the cord from the body, and never exhibited it to show in what manner his death was accomplished. The people carried the body to the town-house, where it was the next day examined by two medical men, who without viewing the cord or the place where death had been consummated declared that he had been strangled. On the strength of this the father was condemned and broken on the wheel. He expired with protestations of his innocence.

Reflection came when it was too late. It was recollected that the son had been of a melancholy turn of mind, that his clothes were not in the least ruffled, that a *single* mark only was found from the cord, which indicated suicide by suspension, and in addition to these facts that the dress proper for the dead was found lying on the counter. Voltaire espoused the cause of the injured family, and attracted the eyes of all Europe to this judicial murder. The council of state reversed the decree and vindicated the father's memory.

On board a ship coming from Calcutta there had been a disturbance, and one of the sailors was said to have received a blow in the side from a handspike. Four months after this, and when he had been in port several days and was often on shore, he one day ate a large dinner and drank freely. He was taken ill and a physician was sent for, but he died before any aid could be administered. An examination took place; the stomach was highly inflamed and still retained the food of the previous day. The liver was much diseased and there were numerous abscesses in it. The gall-bladder was natural. The fifth and sixth ribs were found to have been fractured so near the sternum as to occa-

sion a slight depression of that bone, but union was so complete as to give no indication of the age of the fractures. The heart and lungs were sound.

On these appearances the medical examiner gave it as his opinion that there was a probability that the *fracture of the ribs had produced the diseased appearance of the liver*, and that the influence of the latter had extended to the stomach. The persons accused of injuring the deceased were on this testimony committed by a justice of the peace to take their trial for murder. They were, however, soon brought up again on a writ of habeas corpus before two judges of the supreme court, and in the mean time the professor of anatomy in Harvard University had made a further examination of the disinterred body. The stomach was found to contain a quart of undigested food, mixed with gin. Its internal surface was highly inflamed, particularly at the cardiac orifice. There were four or five ounces of fluid in the pericardium. In the liver were several tubercles, one of which had suppurated, but it had no connection with the fractured ribs. Indeed, the "liver was so situated that it could not have been wounded by the fractured ribs without penetrating the diaphragm and the lower part of the lungs." Yet these parts were sound. The blood-vessels of the heart were highly congested, the ventricles contained much serum, and there was a general dropsical effusion throughout the body. No other opinion could be given than that it was a case of general disease, induced by intemperance, and that the immediate cause of death was the overloaded state of the stomach. The prisoners were in consequence discharged.

In 1800, at the Devon assizes, Thomas Bowerman was presented to the grand jury for the murder of a bastard child by pushing an awl into its head. The body had been disinterred by order of the coroner, and on the inquest a hole was found on the side of the head near the ear, agreeably to the testimony of a witness. An Exeter surgeon, hearing of this case, attended the grand jury. He examined the skull, and found that the supposed hole was the natural perforation of a vein, and in proof of this pointed out a covering of enamel round the opening, which could not have been there if it had been made by force. In further illustration he exhibited several skulls all having similar perforations, and each hole having a small channel, and the rim or edge smooth and polished.

Mr. Alcock, some years ago, stated in a public lecture at London that he had known a fracture of the base of the skull produced by the awkward and violent tearing of the upper portion during autopsy, the saw not penetrating deep enough to divide the bones, and this was mistaken by the inexperienced operator for fracture of the skull producing death. Being a criminal case, it might have led to melancholy consequences had not the error been detected by an observer.

Another case is related where one brother was supposed to have murdered another, and the crime was after many years thought to be brought to light by the accidental discovery of the bones. Dr. Perfect examined them before the coroner's jury and found that they were the bones of an aged female.

Amusing instances of gross ignorance happen sometimes. In a case of supposed abortion, before a coroner's jury in London, in 1829, a medical practitioner testified that the fullness of the breasts attendant on impregnation was the consequence of powerful medicines; that the natural opening of ducts about the os uteri were punctures, and finally, that the gall-bladder was filled with *florid* bile. For all of which the coroner's jury voted him their thanks.

Of course in many cases it is the public interest that suffers from such official incapacity. Dr. Guy relates that he was summoned by a coroner in a case where a woman previously in good health was seized with violent vomiting in the night and died the next morning. The suspicion of poison was strongly confirmed by the swollen and crimson appearance of the body. A bloody, frothy serum issued from the mouth. She had complained of a burning sensation at the stomach, and had expressed the opinion before death that she had been poisoned. Dr. Guy refused to give any opinion as to the cause of death without the opportunity of a post-mortem examination. The coroner, who was not a medical man in this case, being in great haste to hold another inquest in another part of the city, and seeing the bloody serum issuing from the mouth, remarked to the jury that it was entirely unnecessary to open the body, that there was no doubt whatever that the woman died from rupturing a blood-vessel, and advised them to return a verdict to that effect, although another physician who was present testified his belief that the woman died from the effects of poison. The verdict of the jury was in accordance with the coroner's recommendation. Being dissatisfied with such a flagrant dereliction of duty, Dr. Guy made known the facts of the case to the mayor, who caused the body to be disinterred, when it was satisfactorily proved that death had been caused by arsenic. Officers were dispatched in pursuit of the husband, but without success, as he had fled from the city, and thus in all probability a murderer escaped from justice.

So far we have considered the medical officer. As to the judicial officer, he should be a man at least of the standing and ability of the district and municipal court judges. And in the language of that admirable clause in our constitution, in order that these officers "may be as free, impartial, and independent as the lot of humanity will admit," they should hold their offices as long as they behave themselves well, and should have honorable salaries, ascertained and established by standing laws. This will rid us beyond peradventure of the unseemly rivalry



and race for fees which now occasionally occurs, and which cannot but tend to provoke scandal and bring into disrepute an important part of our judicial system.

I come now to an important portion of my subject. Upon what officer should this judicial function devolve? Should he be the person who subsequently has charge of the conduct of the prosecution, — I am speaking of cases where violence has been committed, for in none other is the judicial inquiry necessary, — or should he be a justice of some court?

You are aware, perhaps, that in France and in other countries of Europe the office of coroner is unknown. The prosecuting officer of the government — corresponding to our district attorney — proceeds to the place where a dead body is found, makes the investigation, summons witnesses, and takes their testimony in writing, which is read to and signed by them. He has power to prevent egress from the premises or departure from the neighborhood when necessary, to seize articles and papers supposed to be connected with the crime. He is authorized to take with him one or two persons deemed by their art or profession capable of appreciating the nature and circumstances of the crime.

In case a violent death is the subject of inquiry, or one where violence is suspected, he is assisted by one or two health officers, who are always physicians, who report on the causes of death and the condition of the body. He is the person charged with the subsequent prosecution of the crime as well.<sup>1</sup>

However efficient this may be found in a system like that of France, it is hardly in harmony with ours. We cannot afford to leave out of account in our legislation the weaknesses and foibles of human nature. I have before adverted to a fact familiar to all who have much acquaintance with the administration of criminal law, that the tendency of a prosecutor is to become a partisan. Every district attorney, every police officer, every detective, every person habitually engaged in the prosecution of crime comes in time to be less and less impressed with the truth of the proposition that every man must be presumed innocent until proved guilty. In him is represented the state, and the state is a party to the case; a judge must be the free and unbiased repository of the interests of both.

I reject, therefore, as unfeasible the proposition that the district attorney, having the later charge of the case, should also take the earlier evidence in a judicial capacity. If you say that his being allowed to act thus would give him better possession of the facts of the case for his subsequent use, I reply he may be present, but not in a judicial capacity. Let us beware how we make possible the union of prosecutor

<sup>1</sup> Teulet, *Les Codes*. 1860.

and judge, and create men more eager to convict than to do impartial justice.

Being judicial, the duty should devolve upon a judge. I now propose, therefore, to let the coroner's court be merged in the criminal courts of first instance, called in the country district courts, in the cities police or municipal courts, and to transfer the judicial duties hitherto performed by the coroner to the judges of these courts. Being the first step in a judicial proceeding, all subsequent steps of which are taken in the courts, nothing can be more appropriate or logical than this transfer. Thus, and thus only, can you secure its proper place in a responsible and orderly judicial system.

Nor is the proposed change as great as at first sight it appears. These courts perform now the identical duties performed by the coroner so far as he acts judicially, only they do it over again after the coroner instead of doing it once and for all. The judges of these same courts now do decide on their discretion whether a person accused shall be bound over for trial or discharged. So you are placing no more power in their hands than they now have. You risk nothing by the change and you get rid of a great danger.

Let me call your attention to another view of the subject. With anxious care and infinite solicitude we guard the life entrusted to our hands in a criminal trial. We employ the most august and elevated tribunal to preside over it, the highest law officer of the State to conduct it; we allow the accused free choice of learned and able counsel to see to it that all the safeguards of the law surround and protect him. All this we do as well to do justice to the State as to abstain from doing injustice to the individual. Yet we entrust the first step in this proceeding to random and irresponsible hands. And yet the first step is not infrequently the most important of all. "Incompetent hands may destroy, untrained minds may overlook, the information which is readily obtainable at first, but once neglected is irreparably lost." Consider the possibilities of imminent peril to endangered innocence, of hopeless loss to the security of the public here involved.

In the country, where the district courts discharge the duties of courts of first instance, this change would involve no increase of judges or of expenditure. Their business does not occupy more than a few hours a day at the most. In Boston the municipal court performs these duties. There are three judges, and a special justice who sits in the absence of either of the others, in the city court. The suburbs have each a municipal court, with one justice and two special justices. If we have not enough judges, one more at the most will suffice for Boston proper. For the district courts no increase or change will be required.

There were held in Boston during the year ending April 30, 1876, one hundred and ten inquests and four hundred and twenty-three views,

costing the city the sum of \$10,769.74. By comparison with previous years it will be seen that the amount is steadily increasing. This expenditure included for medical examinations \$1790, for chemists \$170. This with the \$4000 or more paid to jurors, constables, and scribes would give you enough to pay good salaries to two competent medical officers, and when you consider that no new judge is needed you have another \$3500 at your disposal. The number of views and inquests just mentioned is so largely in excess of the published facts as to give ground for the supposition that practices may now prevail which under a competent and responsible medical officer would not occur, and thus the number would perhaps be materially reduced.

Now the coroner and jury must view the body, and the oath must be administered to the jury *super visum corporis*, and this, moreover, to quote an old English author, in order that the jury may have the benefit of the coroner's remarks upon the appearances which the body exhibits.

As the proposed plan does away with the jury and gives the physical examination entirely into the hands of the medical officer, no good reason is apparent why the judicial hearing should be held on the spot, though there is probably no valid objection to that course.

I have repeatedly referred to the want of responsibility of the existing coroner. We, as attorneys, are responsible to the courts; ministers are amenable to the discipline of their conferences; there is no public servant who is not subject to some higher power for correction and removal. The coroner gives a bond for five hundred dollars, — less than a constable; there is no penalty enacted for his misconduct in office, and the only way to remove him is by an address of both houses of the legislature to the governor!

The power of the coroner to serve process and exercise other functions of the sheriff under certain circumstances is a relic of the remote past, when he was the sheriff's substitute and deputy, and has now no ground or justification for being continued. These powers should at once be transferred to the sheriff's deputies or to the sheriffs of adjoining counties.

To recapitulate briefly. The changes proposed are: —

(1.) To abolish the office of coroner as now constituted. The abolition of the coroner's jury will follow.

(2.) To divide its duties between (*a*) medical officers, to make the examination and testify to its results, (*b*) judicial officers, to receive the testimony and apply the law.

(3.) To have the medical officers appointed by the governor and council, during good behavior, and removable by the same power for cause shown. In Suffolk County there should be two, and they should receive fixed salaries. In the other counties they should be more nu-

merous (owing to the greater distances to be traveled), and should be paid by fees for the services rendered.

(4.) To have the judicial duties performed by the justices of the criminal courts of first instance, as a part of a regular judicial procedure.

## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

*Coloring Agents in Microscopy.* — During the past year eosine has attracted much attention, but has hardly come up to the expectations that were held out to us. Dr. Julius Dreschfeld<sup>1</sup> uses an aqueous solution of one part of eosine in from a thousand to fifteen hundred parts of water. Sections are left in this for a minute or a minute and a half and then washed in faintly acidulated water. He claims that the eosine makes the sections transparent and brings out the differences of tissue. On this account he particularly recommends it for the spinal cord.

Dr. Wissozky<sup>2</sup> has the merit of having made the only really valuable discovery concerning this agent. He has found that eosine has a special affinity for hæmaglobin. It stains deeply mammalian red blood corpuscles and the bodies of those of amphibians, leaving their nuclei colorless. He found on extracting with water the hæmaglobin from the red corpuscles that the eosine had no effect on them, and consequently concludes that it is the hæmaglobin that is stained. By subjecting the blood corpuscles of the frog first to eosine and then to hæmatoxiline he has succeeded in coloring the bodies with the former and the nuclei with the latter. White corpuscles are not affected. Wissozky believes that this property of eosine will be of much value in certain investigations or, for instance, in the development of the blood and blood-vessels. In a note he states that in connective tissue cells only the protoplasm and in epithelium only the intercellular substance (*Kittsubstanz*) is distinctly colored. These last statements are entirely at variance with our experience: we have found eosine an intense and rapid-staining agent but without elective affinity (except perhaps for hæmaglobin), and in no other respect equal to logwood.

Drs. Norris and Shakespeare<sup>3</sup> have made public a method of double staining which apparently gives very striking results and is certainly worthy of further trial. Two fluids a red and a blue one are made as follows: —

Red.		Blue.	
Carmine . . . .	3 ss.	Indigo-carmine . . . .	3 ij. <sup>4</sup>
Borax . . . .	3 ij.	Borax . . . .	3 ij.
Distilled water . . . .	f 3 iv.	Distilled water . . . .	3 iv.

<sup>1</sup> Centralblatt der medicinischen Wissenschaften, 1876, No. 40.

<sup>2</sup> Archiv für mikroskopische Anatomie, Bd. xiii., Heft 3.

<sup>3</sup> American Journal of the Medical Sciences. January, 1877.

<sup>4</sup> Indigo-carmine is the sulphindigotate of potassium.

The sections to be stained must be washed till they are free from any color due to the hardening agent, and it is well to dip them into alcohol before laying them in a mixture of equal parts of the red and the blue fluids. They remain there from fifteen to twenty minutes, and are then transferred for a somewhat shorter time to a saturated solution of oxalic acid, which in turn must be completely removed by water. We have not space to give an account of the way in which this process affects the elements of the various organs, and regret that the authors do not appear to have been able to deduce a general rule of the way in which it works. Sometimes there is a mixture of red and blue, that is, purple; some parts are green, and most are either blue or red. The fibres of connective tissue and the ground substance of cartilage are blue. Cells as a rule appear red with red nuclei, but sometimes the former are blue and the latter red. As an example we will quote the description of the lungs stained in this manner: "The capillaries with their purple-tinted walls and bright-red nuclei are distended with blood which had its usual apple-green hue. The large flat cells of the alveoli show in their cell-contents a faint blue which does not at all mask the carmine of the nucleus. The arteries and veins are stained as usual. The cell-contents of the columnar epithelium of the bronchi and trachea stain greenish-blue, while the nucleus is always red and the ciliæ are tinged faint blue-green."

Dr. Klein<sup>1</sup> has applied to the study of the normal structure of the cornea a modification of Stricker's method of investigating inflammatory changes. He proceeds as follows: "The centre of the cornea of a young kitten that had been chloralized was touched with the tip of a stick of caustic potash; after twenty-four hours the surface of the cornea was gently rubbed with lunar caustic once or twice, and excised after half an hour and placed in water acidulated with acetic acid. In one or two days the organ had swollen up into a thick gelatinous body, from which thin lamellæ were stripped off by means of pointed forceps and finally mounted in glycerine. The lamellæ obtained from the anterior half of the cornea, except those on the very surface, proved most instructive." The centre of the cornea is necessarily much injured, and the useful portion is toward the periphery. The matrix is of a yellowish-brown color, the bodies of the corpuscles are brownish-purple, and the nuclei clear. The outlines of the lymph spaces containing the corpuscles are very clearly shown. It may be objected that this method can hardly show the parts in their normal condition, and it would be desirable to ascertain whether equally good results may not be obtained by some more humane procedure.

*Sexual Differences in the Skull.*<sup>2</sup> — Mantegazza has shown by obser-

<sup>1</sup> Quarterly Journal of Microscopical Science. January, 1877.

<sup>2</sup> This account of observations by Italian authors is taken from an article in the *Revue d'Anthropologie*, tome v., Numero 4, 1876.

variations on two hundred and seven skulls from the neighborhood of Bologna that, contrary to the common opinion, the female skull is shorter than that of the male. Further investigations of skulls of various nations will, however, be necessary before this can be accepted as a general truth.

M. Morselli has studied with great care the weight of the skull and of the lower jaw in the two sexes, with the interesting result of discovering an index of the sex which is more valuable than any of those in use: to wit, the proportion of the weight of the jaw to that of the skull. The author weighed one hundred and seventy-two skulls, the sex of which could be certainly determined, one hundred being male and seventy-two female. The weight varied from three hundred and thirteen grammes to nine hundred and ten, the average being five hundred and sixty-six. The average weight of the male was 602.9 grammes and that of the female 516.5. The latter were to the former as 85.7: 100. Weisbach, it may be mentioned, makes the ratio 87.2, while Dureau's results, 85.8, are practically identical with Morselli's. Our author next weighed the inferior maxillæ, and found the total average 73.3 grammes, the average of the male ones being 80 and that of the female 63; the latter being to the former as 78.5: 100. The relation of the weight of the jaw to that of the head varies considerably, but it is constantly larger in proportion in man than in woman. The average in the former being 13.7% and that of the latter 12.6%. This difference the author maintains is the most constant and important sexual distinction of the skull. A point worthy of notice which is incidentally touched upon is that as a rule the cranial capacity increases with the weight of the skull.

*Muscles.* — Professor Krause<sup>1</sup> has shown that the sterno-cleido-mastoid may be said to be composed of four muscles more or less closely united. The advantage of this view lies in its furnishing a key to some anomalies in the human subject and to the arrangement in some mammalia, peculiarities which depend on the absence or uncommon development of one or more of these four bellies. The nomenclature is sufficiently simple: the sternal portion is divided into the sterno-mastoid and the sterno-occipital, and the clavicular portion into the cleido-mastoid and cleido-occipital. Of these divisions the sterno-mastoid, sterno-occipital, and cleido-occipital are superficial, lying in the order named, from before backward, the first of them being the largest part of the muscle. The cleido-mastoid arises farthest back, and lying deeper than the others crosses them obliquely to be inserted into the mastoid process. It is the second division in point of size. The spinal accessory nerve emerges from the muscle between the two clavicular portions, and enters it either by piercing the cleido-mastoid portion or by passing between it and the sterno-mastoid.

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, No 25, 1876.

Zuckerkandl<sup>1</sup> in an article on the inferior cervical (the subclavian) triangle describes a new muscle, the scalenus minimus, which he has found twenty-two times in a series of sixty subjects. It varies greatly both in size and in its origin. It may be half as large as the scalenus anticus and it may be almost imperceptible. It arises from the transverse process of the sixth and seventh cervical vertebræ, or only from the latter, or only from the first rib near the tubercle, which last is its most constant origin. It is inserted into the upper surface of the pleura which it makes tense. When absent its place is taken by two bands of fibrous tissue.

(To be continued.)

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### ZIEMSEN'S CYCLOPÆDIA.<sup>2</sup>

THE present volume of this great work will, we believe, prove an unusually attractive one. It is devoted chiefly to the chilopoietic system, but it includes also the pharynx and larynx. The first paper, by Wendt, is an interesting monograph on the morbid processes, so rebellious to treatment, that infect the pharynx. It begins with the anatomy of the region, and describes the third or pharyngeal tonsil situated in the median line under the basilar process. "The cytogenic, richly follicular layer which, without interruption, covers the vault and a great portion of the lateral wall, and which composes the stroma of the mucous membrane, is, as a rule, more considerably developed in this place, and elevated into a thick cushion which may reach the thickness of six millimetres or more."

The longest article in the book is that of Leube on the stomach and intestines. He also begins with the anatomy, and gives two wood-cuts of Luschka's admirable plates, showing the true position of the stomach. Another cut gives an excellent view of the usual shape and position of the stomach when morbidly dilated. This affection is discussed with considerable care, as is also its diagnosis by percussion. This, however, is rarely sufficient alone, and the following experiment is recommended: "If a healthy man, while fasting, be made to drink water (a quart), a strip of dullness makes its appearance *above* the umbilicus; if the strip of dullness appear below this point, dilatation of the stomach very probably exists, and the diagnosis becomes more certain if the stomach-tube be used, and fluid be introduced and withdrawn at discretion. If with this manipulation a dull strip regularly form below the umbilicus and disappear every time the fluid is withdrawn, dilatation of the stomach may be diagnosed with a considerable degree of certainty. *Finally, all doubt is removed if the stomach-tube can be felt below the horizontal line drawn from the anterior superior spinous process of the ilium from one side to the other.*" This brings to our notice the most striking point in Leube's treatise, his advocacy of

<sup>1</sup> Zeitschrift für Anatomie und Entwicklungsgeschichte, Bd. ii. Vide Centralblatt. No. 48, 1877.

<sup>2</sup> *Cyclopædia of the Practice of Medicine.* Edited by Dr. H. VON ZIEMSEN. Vol. VII. Diseases of the Chilopoietic System. New York: William Wood & Co. 1876.

the stomach-pump, not only in dilated but in inflamed stomachs. It empties the organ, as he claims, quickly and completely, with less injury to it than is produced by emetics, and permits the immediate application and subsequent withdrawal of appropriate washes. In spite of these advantages the method will hardly come into favor in private practice.

A very interesting part of the volume is that by Lichtenstein on constrictions, occlusions, and displacements of the intestines. There are many cuts to help the description of the mechanism by which various twists and the like are produced. The explanation of the very perplexing displacement known as retro-peritoneal hernia, or hernia duodeno-jejunalis, is the clearest we have met with.

From the consideration of the intestinal tract we naturally pass to that of its *fauna*, intestinal parasites, which are treated by Heller, and last of all comes Von Ziem-sen on the larynx. There are many more illustrations in this volume than any of the others, which it resembles in the excellence of the type and paper. We regret to notice an instance of vulgarity in the translation, the first, by the way, which has attracted our attention; it is on page 21: "Many persons are not *posted* concerning the glosso-pharyngeal nerve."

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### PROFESSOR CHARLES E. BUCKINGHAM.

DR. CHARLES E. BUCKINGHAM died at his residence in this city on Monday, February 19th, at the age of nearly fifty-six years. Graduating as Bachelor of Arts at Harvard College in 1840, and as Doctor of Medicine in 1844, he entered at once upon the practice of his profession, and without other advantages than his own ability and industry soon laid the foundations of a steadily increasing reputation. From the first he enjoyed in an unusual degree the respect and affection of his patients, who appreciated his frank sincerity and unselfish devotion to their welfare. His relations with his professional brethren were marked by the independence and candor with which he formed and stated his own opinions, but also by his respectful consideration for those of others, and by a generous regard for men who were his juniors.

Appreciation of Dr. Buckingham's professional abilities was shown by his appointment as one of the surgeons and afterwards as one of the consulting physicians of the City Hospital, and by his election as adjunct professor of the theory and practice of medicine, and in 1868 as professor of obstetrics and medical jurisprudence, at Harvard College.

As a teacher he was conspicuous for earnest and independent opinions, and for the concise and practical character of his instruction. He was one of the earliest and warmest advocates for raising the standard of medical education, and to have been able to coöperate in Harvard's successful effort in this direction was to him a source of high satisfaction. The same desire for progress induced him to become one of the managers of this journal, and to contribute liberally of his means towards increasing its value and usefulness.

Heroic to the last, he continued his efforts to fulfill his public and private duties, especially those of his professorship, and his generous attendance on



some who had been his patients in better times, whom he would not desert in their adversity, after he felt the heavy burden of illness laid upon himself, was characteristic.

A great concourse of those who had loved and confided in him, and of his professional brethren, with the president and medical faculty of Harvard College, and officials of the Masonic and Odd Fellows' fraternities, in which the deceased had held high positions, filled the church in which the funeral services were held. Representatives of the Massachusetts Medical Society, Suffolk District Medical Society, medical faculty of Harvard College, Obstetrical Society, and of the staff of the Boston City Hospital, united in rendering a last tribute of respect to their eminent colleague.

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### TYNDALL'S LATE EXPERIMENTS.

OUR readers may remember the discussion between Professors Tyndall and Bastian which followed the interesting experiments of the former with reference to the question of spontaneous generation. The solutions tested at that time were, after boiling, exposed in test-tubes to the atmosphere of an air-tight box under certain conditions, which we described in the JOURNAL a year ago. These conditions were sharply criticised by Bastian. In view of this discussion and also of certain investigations which have since been made pointing to the possibility of spontaneous generation, Tyndall undertook during the autumn a vast series of fresh experiments, the results of which are embodied in a lecture delivered at the Royal Institution on January 19th, and entitled *A Combat with an Infective Atmosphere*. The first solutions used contained a quantity of ordinary mushrooms, which after boiling were placed in the test-tubes as before. In a few days the fluid was swarming with animal life. The same results followed the use of solutions of cucumber and beet root. The atmosphere of the institution was blamed for this failure. We notice, however, that the boiling was limited to five minutes, although it has been shown by Jeffries Wyman that bacteria were not destroyed until after *six hours'* boiling, solutions treated in this way never failing to remain clear for years. We are surprised that this fact has not been formally recognized by these observers. The next experiments of Tyndall were tried on the roof of the building with like results. A new chamber was tried, and turnip infusion was used, but in all cases the verdict was in favor of spontaneous generation. Again he tried a different mode of experiment: he filled tubes and heated them in oil to  $230^{\circ}$ , and in another case the heating was performed by means of calcined wire, which had been brought to a white heat by means of galvanism; yet in these cases also, in the experimenter's words, "all gave way and swarmed with life." He then, as an almost final experiment, took last year's tubes, the contents of which had remained pure from the beginning; he placed them under the same conditions as those which had failed, and, singular to tell, he found that these tubes soon swarmed with organic life.

He was satisfied that his method was at fault, and a careful examination disclosed the fact that air was introduced by the pipette which filled the tubes

situated in the air-chamber. This air was filled with the germs of hay used in considerable quantity in the laboratory. On removing to a purer atmosphere, and conducting his experiments with fresh apparatus carefully disinfected, no trace of organic life was discovered. The mode adopted of filling the tubes was perfectly novel. It was done by means of an apparatus known to chemists as a "separation funnel," and was so well accomplished that not a single bubble of air was introduced. The test-tubes, when submitted to a beam of electric light, exhibited themselves as perfectly pure,—all save one; and that, which had become muddy, was shown to have a pin-hole perforation. These tubes, which were some weeks under experiment, proved, according to Professor Tyndall, the truth of his views, and the existence of the accidentally injured and therefore muddy tube seemed more convincing than a volume of argument.

Doubtless, had Tyndall followed the rules laid down by Wyman, "an infective atmosphere" would offer no obstacle to the success of his experiments.

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#### MEDICAL NOTES.

— In noticing the fact that the medical journals of this country urge upon physicians the adoption of the metric system in prescriptions, *The Lancet* considers it somewhat singular that no attempt has yet been made to introduce it into England.

— Savannah had, it was thought, a population last summer of thirty-two thousand; ten thousand left during the yellow-fever epidemic, and there were about twelve hundred deaths from the disease.

— Dr. Fischer, in the *Schweitzer Correspondenz-Blatt*, vi. 15, 1876, records the history of a puerperal case in which an application of the ice-bag caused gangrene of the skin of the abdomen underneath. The history in brief is as follows: After birth of twins the mother suffered profuse hæmorrhage, which, in spite of kneading the uterus, injections of cold water and vinegar, water and liquor ferri sesquichloridi, and scratching of the posterior cervical wall with the finger, was several times repeated. In the mean time the ice-bag was applied and left on twenty-four hours, after which the gangrene was noticed to begin. The emptiness of the capillaries of the skin primarily induced by the bleeding was regarded as the cause of the bad effect of the ice-bag.

— Dr. Tillessen, in the *Deutsche medicinische Wochenschrift*, Nos. 46 and 47, 1876, speaks of the method of treating tænia in the Greifswald medical clinic. It consists essentially in clearing out the intestine with castor-oil and enemata, followed by the exhibition of liquids containing substances supposed to be distasteful to the parasite, such as herring brine, and so forth. In addition, a considerable amount of water is given, which is supposed to distend the tænia and separate it from the intestinal wall. The increased weight of the parasite together with the peristaltic action of the intestine suffices to remove the worm. Several cases are reported, and in each the head was brought away.

— Dr. Edgar Holden, of Newark, reports, in a recent number of the *New York Medical Record*, a discovery in physical diagnosis. He calls his appa-

tus a "resonator." It consists of a soft-rubber tube with metallic end-pieces, and is best described in the author's own words. "Material, soft rubber, one sixteenth of an inch in thickness; internal diameter, one half inch; length, seventeen and three quarters inches. Distal end-piece of thin brass, three quarters of an inch in internal diameter, one fortieth of an inch in thickness, and one and a half inches long. Proximal end-piece (mouth-piece), of wood or metal. Same external diameter, and same internal at its extremities, but narrowed in its middle to five sixteenths of an inch, and one and seven eighths inches long. The mouth-piece of a trumpet would doubtless be better." A rushing noise is produced at the extremity of the tube when one makes forced inspiration or expiration through it. "If the patient be made to respire through the tube, the ear of the physician being applied to the chest, and particularly in the supra-scapular space, this rushing sound is transmitted with clear, resonant volume. Disease, however slight, exaggerates the sound, alters the pitch, or changes it in proportion to the solidity of the conducting tissues." It is recommended to hold the free end away from the examiner so as to avoid distracting the attention, and to close the free ear with the hand. "A singularly magnified character is given to the respiratory murmurs, and the stethoscope is unnecessary." Five cases are briefly given, and the author sums up as follows: "It intensifies the sounds of vesicular dilatation, whether in a normal or morbid state. It intensifies the tubular sounds which, to the unassisted ear, are sometimes partially drowned by the neighboring healthy murmurs, and it exaggerates to painful hoarseness the evidences of air in cavities."

— Lasinski, in a recent exchange, highly recommends insufflation of the following powder in whooping-cough:—

R̄ Quinæ sulph.	. . . . .	grammes 1.0	grs. 15.+
Acidi salicylici	. . . . .	gramme 2 0	grs. 30.+
Sacch. albi			
Natr. bicarb.	. . . . .	āā gramme .6	grs. 7.5+ M.

He uses the powder morning and evening, and makes it last ten days, that is, nearly one grain of quinine and two of salicylic acid are used in each insufflation. He confesses that children make resistance, but claims that the results are so favorable that it is worth while to persist. Distinct action of the medicines appears at latest eight days after commencement of their use, and is shown by a quantitative or qualitative diminution of the attacks. The experience of the author in twenty cases has been that a complete arrest of the whooping-cough takes place between eight and thirty days; adults and older children were more amenable to treatment than quite young children. His method of procedure with children is to have them held in the lap of an assistant while a tongue spatula armed with a blow-pipe carrying the powder is inserted; during one of the deep inspirations which follow crying and gagging the operator blows the powder down. Care is taken to depress the base of the tongue well and to direct the end of the blow-pipe behind the epiglottis.

— We learn from *The Medical Record* that a bill has been introduced into the Assembly of New York for the creation of a State Board of Health. It provides for the appointment of one physician from the State Medical Society, and one from the State Homœopathic Medical Society. The other members of

the board are to be the attorney-general of the State, the surgeon-general, the state engineer, the superintendent of public works, and the superintendent of state-prisons. The *Record* states that the bill is evidently a partisan measure in the interests of homœopathy, — although it is specious in its appointments and purposes, — and it calls upon the members of the profession to exert themselves for its defeat.

— The *Paris Gazette hebdomadaire* of the last week of December mentions a supposed case of bisexual hermaphroditism heretofore unpublished in France. The individual was born in 1824, and was named Catherine Hohmann. At the age of twelve years the genitals and mammae were developed; at seventeen this person became a mistress, and so lived for several years; at nineteen, and until the fortieth year, menstruation regularly occurred. Upon its cessation the genital organs approached the masculine type, the individual displayed the dress of the male, and married a young American girl. The penis at this time was five centimetres (about two inches) long, arched downwards, was attached by two loose folds of tissue, was not perforated, and resembled in form and dimensions a largely-developed clitoris. A very dilatable urethra opened on the inferior surface of the penis at its base. Under this was a fissure opening in the median line, terminating still lower in a cul-de-sac, and answering to a rudimentary vulva. Under the penis also was a bifid scrotum, in the right side of which was a well-developed testicle, and in its left a soft and lobular tumor, which might be regarded as a rudimentary or atrophied testicle. The individual was first examined in 1866 by Von Scanzoni, in Würzburg, and the last examination was in 1874 by Mundé, of New York. About ten years ago Professor Schultze, of Jena, found the following anatomical relations: An urethra, or rather an urethro-genitary canal, with a depth of seven centimetres (nearly three inches), leading directly to the bladder, and very dilatable; it presented near the vesical end an ampulla-shaped enlargement fifteen millimetres long, which pouch led into a rudimentary uterus. Rectal examination found to the left of this rudiment of a uterus a cylindrical tumor two centimetres long, which was attached to the uterus by a membranous expansion not unlike a large ligament. This second tumor, movable, cylindrical, and attached in this way to the uterus, suggested the possibility of its being an ovary. Such was the opinion of Schultze, which was confirmed by Olshausen, who also examined the individual several months later. Apart from a full development of mammae and the absence of hair on the face this individual had an exterior of the masculine type. The larynx, thorax, and pelvis presented the characters of the masculine sex. Schultze's examination coincided with that of Scanzoni, and with those made later by Virchow and Mundé. The physiological observations are curious enough: here is an individual who for twenty years carried on in a regular way the functions of woman, as to menstruation and copulation, bearing at the same time nearly complete anatomical parts of the male without their function; upon the cessation of the female functions the individual was equally able to accomplish coitus, after the style of the male, followed by ejaculation. Several years ago M. Odin published a similar case; this, the *Gazette* remarks, is the second example of supposed bisexual hermaphroditism.

— The death of Johann Christian Poggendorf, of Berlin, occurred January 25th. He was born in Hamburg, December 29, 1796, and distinguished himself early in life in physics. His experiments in galvanism have especial scientific value. He is best known in Europe through the *Annalen der Physik*, of which he has been the head for many years. In 1834 he was made professor in Berlin, and in 1838 a member of the Berlin Academy of Sciences.

— The Society of Physicians of Thüringen, Germany, has founded a life insurance society for the purpose of support of their families after their death.

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## BOSTON CITY HOSPITAL.

REPORTED BY GEORGE W. GAY, M. D.

### SURGICAL CASES OF DR. CHEEVER.

*Hyaline Myxoma of Cheek; Fourth Operation; Removal; Recovery.* — Hattie S., aged twenty-two years, single, first noticed a soft, painless tumor in her left cheek about five years ago. An operation for its destruction was performed in 1872, again in December, 1874, and the third time in February, 1876. All of these operations were performed upon the inside of the cheek, and consisted of incisions, gouging, cauterizing, etc. The disease reappeared a few months later, and Dr. Cheever advised that more radical measures be taken by attacking the growth from the outside.

October 6, 1876. The patient was etherized and placed in the operating chair. On exposing the tumor it was found to extend upwards and backwards into the zygomatic and temporal fossæ, necessitating the removal of a portion of the zygomatic process, and section of the lower jaw three fourths of an inch in front of the angle. The ramus of this bone was raised, and the growth was found to be attached to the upper part of the greater wing of the sphenoid, from which it was removed with a bone scraper. It also extended downwards and inwards near the pharynx. After a long and careful dissection the whole of the diseased portion was removed. The facial nerve and internal maxillary artery were unavoidably wounded, but the hæmorrhage was not excessive.

The tumor was precisely like that found at the previous operations. It was soft and lobulated, with a thin sac which was easily ruptured, giving exit to a glairy, gelatinous substance peculiar to the more succulent variety of myxomas. There was no capsule, and the mass of lobules extended into the soft tissues in all directions, infiltrating them as it were. The cavity of the mouth was not opened. The fragments of the jaw were wired together, the wound was swabbed out with a solution of perchloride of iron, and closed with sutures.

The patient rallied well from the operation, and improved for six days, when she had an attack of secondary hæmorrhage, which was controlled by pressure. It recurred a week later, and was stopped by injecting ice water into the wound. There was no farther trouble. The wire was removed from the jaw in two months. The wound was healed in eleven weeks, and the patient was discharged well.

Four months after the operation the patient came to the hospital. The wound was well closed, the teeth were in perfect apposition, and the mouth could be opened three quarters of an inch. There was firm union of the jaw, with no necrosis nor deformity. Paralysis of the left orbicularis oculi muscle had disappeared, she being able to close the eye promptly. Her mouth was a little drawn to the right side. There was no reappearance of the tumor.

Time alone will show whether this disease will return. Unfortunately, it belongs to the softest variety of myxomas, which are very prone to recurrence. It would be difficult to do a more thoroughly radical operation for its removal than was the last one.

*Traumatic Aneurism ; Compression ; Recovery.*—The patient was a large, powerful butcher who, in crawling through a broken window, received a deep, lacerated wound just below and to the outer side of the tuberosity of the tibia. Thirteen days after the injury he was admitted to the hospital with secondary hæmorrhage.

Ether having been administered, Dr. Cheever enlarged the wound, and found a soft, pulsating tumor, two inches in diameter, from which hæmorrhage was going on. Efforts were made to secure the bleeding points with ligatures, but owing to the softened state of the tissues they were not successful. The wound was then packed with a compress wet with a solution of ferric alum, and firm pressure was applied by means of a bandage extending from the toes to the groin. The limb was placed upon a ham-splint and elevated on pillows.

At the end of five days the compress was removed. The tumor had disappeared, leaving a wound filled with healthy granulations. The patient has steadily improved under simple treatment, and is now almost well.

*Glandular Tumor of Neck ; Removal ; Recovery.*—A boy, eleven years old, presented himself at the hospital with a glandular tumor in the left side of the neck, which was as large as a duck's egg, and had been growing two years. It was firm, lobulated, and fairly movable, although a portion extended forward beneath the sterno-mastoid muscle. The patient was etherized on January 12th, and the growth was removed by Dr. Cheever. The sterno-mastoid was divided, and the deeper glands dissected from the sheath of the carotid artery. The external jugular vein was cut and both ends were tied. Fifteen ligatures were applied to control the hæmorrhage. The ends of the sterno-mastoid were secured in apposition by a wire suture, and the wound was closed in the ordinary manner. It did admirably. The wire suture came away in sixteen days, and the muscle was so firmly united that it stood out as prominently as its fellow when put upon the stretch. The boy was well in three weeks.

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#### LETTER FROM WASHINGTON.

MESSRS. EDITORS,—The important events now transpiring in congress have drawn to our city a large increase in the population, which is very noticeable in the crowds which throng the streets. This has not been the work of a few days, but a steady gain has been noticed throughout the winter, and it must be confessed that the character of the increase is not in every respect a

desirable one. It has brought with it a large number of women of questionable virtue and of women with unquestionably no virtue at all; the negro population does not seem to be augmented, but the number of door-to-door beggars is greater than was ever known here before. There are more negro beggars, but as a class they form a small proportion of the whole. On those upon whom they think they have some claim there is but little hesitation in pressing their claims, but they seem to possess a certain self-respect which prevents their calling upon strangers. It is curious to note how they have dropped the word "master" (or "massa") in their mode of address and substituted for it one not so complimentary to those who know them best, that of "boss," a term formerly confined to overseers, etc. Our street corners are filled with loafing white men of the laboring class out of work, and all through the severe winter there have been no means save private charity of relieving the sick and destitute poor, the hospitals and two dispensaries excepted, which have done more than their share; but a large class which depends upon the services of ward or district physicians has been left without the right of calling upon them for the want of funds. These physicians, however, have met the emergency as best they could by giving their services gratis, but it is at best a poor consolation to take one's time to visit such persons and then to find that there is no means with which to purchase remedies. Congress has, however, in spite of its absorbing occupation, found time to pass a bill providing twenty thousand dollars for the relief of the poor. Notwithstanding these circumstances so favorable to the spread of disease, the city has been favored in its general health. Small-pox in isolated cases has cropped out here and there. Diphtheria has manifested itself in mild cases, and scarlet fever has prevailed quite extensively, but in a mild form, as the bills of mortality readily show. The prompt and ready action of the Board of Health in handling such cases when they come to their knowledge has undoubtedly much to do with these results. Whatever criticisms may be admissible concerning the board itself, this much must at least be conceded. Their action in such cases is sometimes very objectionable to those directly concerned, but is evidently due in the main to the obtrusiveness and officiousness of persons in their employ.

Our medical society, recognizing the importance of the subject and the necessity for prompt action, has petitioned congress to appropriate funds sufficient for the publication of the subject catalogue now being prepared under the direction of Dr. Billings. This is but following the example of the American Medical Association, and cannot be too generally considered and followed by other societies. "What they think of it at home" is a strong incentive to many congressmen. In the mean time Dr. Woodward is pressing the completion of the second part of the medical volume of the Medical and Surgical History of the War of the Rebellion, in preparation for the press, but we understand with no expectation that this congress can be concerned in its publication. Dr. Billings returned from his trip to Europe some weeks since, and is quite enthusiastic over his reception and experience, the cream of which will probably be detailed shortly, before the Johns Hopkins University. He has succeeded in securing valuable additions to the library of the surgeon-general's office, and seems to have brought back with him practical and useful

ideas of the workings of all the prominent universities and hospitals of Great Britain, France, and Germany, having been brought into direct contact with most of the working men connected with these institutions.

The reference in the foregoing paragraph to public documents of great value to medical men leads us to introduce the subject of public documents generally. There probably has never been a time when, under the control of the government, so many and such valuable public documents have been issued of interest to the scientific man, subjects it is true not always directly bearing upon medicine, but of great importance to the same in their application to collateral subjects; and how to secure their proper distribution has become an important question to the profession. There is no law which governs this satisfactorily. All these documents are printed under the direction of the government printer, and may be obtained from him on application, by purchase, ten per cent. being added to the actual cost. Why ten per cent. is not explained. But this application must be made before the book passes through the press; its cost can only be approximated at that time, and some of these documents although printed under his direction are not wholly under his control, the plates for illustration, etc., being prepared in another office. Add to this that the public printer himself, from the short notice given him by the authorities, is not always able to send a notification properly in advance, and we see a condition of things which by suitable management could be greatly improved. What is the present disposition of these works? No sooner are they distributed than they are to be found in the second-hand bookstores for sale, and any book published by the government can be bought at such places within certain limits of time. Members of congress are entitled to a limited number of copies, some of which they never see, but turn over to their clerks, messengers, or whoever asks for them. Of course there are exceptions to this; some take pains to send their copies to proper and suitable recipients, but these are notable exceptions. All public documents do not come within this category; those issued from the offices of the surgeon-generals of the army and navy have been, if everything be taken into consideration, quite liberally distributed, yet many more private libraries would undoubtedly be enriched by them could they be obtained by purchase at a reasonable rate. The Smithsonian Institution some time since adopted this plan, and furnishes what it terms a check list of its publications, or in other words a price list, for which it will send them free by mail, and in this list are to be found many valuable contributions to anatomy, physiology, chemistry, microscopy, physics, etc. The Bureau of Education is very liberal in its mode of distribution, and the recent work on libraries published under the direction of General Eaton is receiving marked attention as an agreeable surprise. In addition to these we have works under the head of explorations and surveys, directed by Hayden, Wheeler, and Clarence King, each conducting a distinct series. These are exhaustive treatises upon the botany, zoölogy, ethnology, meteorology, etc., etc., of large tracts of our western country, admirably illustrated, and treating of sections which sooner or later must be populated by our patients. Another work might be introduced here, Walker's Statistical Atlas, a valuable and comprehensive series of illustrations by variously colored maps, showing the contrast in various sec-



tions of this country as to population, sex, cultivation of the soil with its products, influences of disease, mortality, education and illiteracy, birth-rates, etc., etc. All of these latter works have now to be picked up in second-hand bookstores or obtained by personal influence through the courtesy of some member of congress.

To control the practice of medicine in the District there is at present a bill before congress to recognize the necessity of a diploma, or in lieu thereof fifteen years' practice. This bill was presented early in the present session, but seems to have passed into obscurity, at least for the present. As it does not seem to have excited the attention of those who keep themselves posted in professional matters before congress, it has probably been pocketed, to use an expressive term familiar to congressional habitués.

The Medical Society has now for the past three years been publishing its transactions quarterly. Its committee of publication have obtained permission to extend the scope of the present form, and to introduce extraneous matter for which they alone are responsible; this is a sort of apology for journalism, but after all, when societies publish their transactions in such a regular form, why not introduce with them paragraphic medical matters of general interest, with book notices and advertisements, instead of having such a multiplicity of ephemeral medical literature?

One of our well-established physicians of considerable surgical ability has become involved in a suit for malpractice, a case of fracture of the leg with consequent deformity. The damages are set at six thousand dollars. The case has not yet been called into court, and its merits and demerits are not known publicly; but the gentleman has the sympathy of his professional brethren in advance, both on account of his own standing and the necessary annoyance which always accompanies such cases.

The Columbia Hospital for Women is obtaining an unenviable notoriety by means of editorials in a weekly paper here, — the *Capital*. These articles seemed to be infused with a spirit in itself not above criticism; they attack directly the surgeon in charge, but if heeded are at the same time undermining the foundations of the hospital itself. I have frequently, on previous occasions, expressed myself plainly and distinctly with regard to the management of the hospital in question, but such appeals through the newspapers to the general public must tend to create a spirit of hostility and prejudice which will eventually thwart the ends to be attained, and require a long and thorough system of reasoning and example to restore lost confidence. The articles in question are based upon the fact that in 1875 a board of consulting and advisory physicians was appointed, the appointments to which were well made so far as the men themselves were concerned. In response to what they understood to be their privilege and duty, they suggested among other things the abolition of the salary of two thousand dollars per annum which was paid to the surgeon-in-chief; as a consequence their duties were limited, by a vote of the board of directors, by the passage of a regulation restricting, except in cases of emergency, the visiting of, examining of, or prescribing for, all patients to the surgeon-in-chief alone, unless by his express direction. We have just learned that the advisory staff has resigned in a body.

WASHINGTON, February 8, 1877.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEBRUARY 17, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	410	19.79	27.46
Philadelphia	850,856	258	15.78	22.88
Brooklyn .	527,830	206	20.29	24.31
Chicago . .	420,000	153	18.94	20.41
Boston . .	363,940	148	21.14	23.39
Providence	103,000	29	14.64	18.34
Worcester .	52,977	19	18.65	22.00
Lowell . .	53,678	20	19.37	22.21
Cambridge	51,572	10	10.08	20.54
Fall River	50,370	11	11.35	22.04
Lawrence .	37,626	18	24.85	23.32
Lynn . .	33,524	12	18.61	21.37
Springfield.	32,976	9	14.19	19.69
Salem . .	26,739	11	21.39	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday evening next, at its rooms, 36 Temple Place, at eight o'clock. Dr. Hay will report Some Cases of Glaucoma.

BOOKS AND PAMPHLETS RECEIVED. — Public Health Papers. No. 1. On the Relations of Health Boards and other Sanitary Organizations with Civic Authorities. By Ely McClellan, M. D., Surgeon U. S. Army. An Address delivered before the Board of Health of Georgia, January 8, 1877.

The Tonic Treatment of Syphilis. By E. L. Keyes, A. M., M. D. New York: D. Appleton & Co. 1877. Pp. 83. Svo. (For sale by A. Williams & Co.)

Transactions of the New York Pathological Society, founded in 1844. Volume I., based on the Proceedings for the Year 1875, and largely supplemented from the Records of 1844 to 1872. John C. Peters, M. D., Editor. New York: William Wood & Co. 1876. Pp. 272. Svo. (For sale by A. Williams & Co.)

Transactions of the Twenty-Sixth Anniversary Meeting of the Illinois State Medical Society, held in the City of Urbana, May 16, 17, and 18, 1876. Chicago. 1876.

Illustrations of Clinical Surgery, consisting of Plates, Photographs, Wood-Cuts, Diagrams, etc., illustrating Surgical Diseases, etc., with Descriptive Letterpress. By Jonathan Hutchinson, F. R. C. S. [London]. Fasciculus VI. Vaccination, Syphilis. Philadelphia: Lindsay & Blakiston. (For sale by A. Williams & Co.)

Atlas of Skin Diseases, consisting of a Series of Colored Illustrations, together with Descriptive Text and Notes upon Treatment. By Tilbury Fox, M. D., F. R. C. P., Physician to the Department for Skin Diseases in University College Hospital [London]. Parts 11, 12, 13, 14. Philadelphia: Lindsay and Blakiston. 1876. (For sale by A. Williams & Co.)

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## NOTES ON SOME OF THE MOST FREQUENT FORMS OF SKIN DISEASE.<sup>1</sup>

BY F. B. GREENOUGH, M. D.

### NUMBER II.

IN the treatment of diseases of the skin various agents are used, which differ in their action and in their method of application, of which it may be well to say a few words in general before referring to their use in special diseases. These are, for the most part, comprised in the following classes: soaps, poultices, ointments or salves, the various preparations of tar and sulphur, washes, powders, and caustics. At the head of this list, in point of frequency of employment, stand the soaps, as they fulfill an important indication in the treatment of almost all abnormal conditions of the epidermis. The ordinary use of soap is of course to clean, to remove the secretions and any extraneous matter that may have come in contact with and adhered to the cutis. For this purpose, that is, simply cleansing, there is nothing better than the white castile soap which is imported from Spain and Italy, and is made of olive oil and soda. It is not irritating, can be used on a raw or granulating surface, and is sufficiently alkaline to saponify the sebaceous secretions of the skin and the fatty matter of ointments that may have been used as dressings. Theoretically, the white is better than the marbled castile soap, as the marbling is due to the presence of some of the salts of iron; whether these are present in large enough quantity to do any harm is, I think, doubtful, but it is just as well to be on the safe side. For toilet purposes, however, that is, for daily use on those parts of the body, such as the hands, face, and neck, which are exposed to the air, wind, and dust, this soap is found to be apt to render the skin dry and rough, and in cold weather liable to chap. To avoid this an enormous number and variety of soaps are made, each manufacturer claiming that his exceeds all others in its emollient and soothing character. These differ in the fatty ingredient used to saponify the base (soda), palm, cocoanut, turtle, and other oils being used, and in the essences used to perfume them. Honey and glycerine are

<sup>1</sup> Continued from page 218.

also, or are claimed to be, incorporated in the soaps, to increase their emollient powers. Some of the glycerine soaps made by the best English manufacturers do contain free glycerine, but the majority of glycerine soaps are such in name only. Until quite recently the French toilet soaps were considered the best, and the price of a small cake of Lubin's make was a dollar, the chief if not the only merit of which was its powerful and lasting perfume. Of late, however, the use of highly scented soaps has much diminished, partly as a mere matter of fashion, and partly from an idea that the essential oils used to give the scent are irritating; and since then the English soaps have been the most in repute. A soap is made, the fatty ingredient of which is claimed to be spermaceti. Whether this is really the fact I cannot say, nor can I pretend to have tried even a small proportion of the different soaps of which the virtues are vaunted; but I can say with confidence that the effect of the use of the "spermaceti tablet" on the softness and whiteness of the skin is very marked. Some skins however are so delicate that the use of even the best soap will produce a certain amount of roughness and dryness. In such cases great benefit may be derived from moistening the skin, after washing and drying, with a lotion consisting of one part each of glycerine, alcohol, and rose-water to three of water, and rubbing gently until dry. This will also be found very useful where circumstances compel one to wash the hands frequently. The constituents of this lotion, by the bye, are, I think, about the same as those of a toilet wash which had a great reputation and sale under the name of "Kaliston." So much for soaps as mere agents for cleanliness. In the "German soap" (*schmierseife*), however, we have the means of fulfilling other and important indications. This is a soft soap, the fatty substance of which is fish oil, and the base potash instead of soda. It is strongly alkaline, and should be semi-transparent, of a yellowish or greenish brown, and about the consistency of marmalade. It has quite an irritant action, and if left in contact with the skin for twelve hours will in most cases produce considerable inflammation, followed by desquamation. It may be said to be semi-officinal, under the name of *sapo viridis*. In addition to its cleansing properties, which it possesses in common with all soaps, its action on the skin ranges, according to the method and length of application, from simply stimulating the circulation and nutrition of the cutis to actually removing the external layer of the epidermis by means of the chemical solvent action of the potash on epithelium. It is applied on a moistened sponge or piece of flannel, and rubbed on the part upon which we wish to act, more or less thoroughly, and for a longer or shorter period, according to the effect desired. Owing to its irritant quality, care should be taken to give instructions to the patient or nurse to wash it off with two or three fresh waters when the application has been sufficiently made.

The German soap may also be used as an alcoholic solution which is recognized as the *tr. saponis viridis*. Hebra describes this under the name of *spiritus saponatus kalinus*, and his formula is as follows : —

R̄ Saponis viridis . . . . .	3 viij.
Spiritus vini rect. . . . .	3 iv.
Digere per horas xxiv, deinde filtra, et adde	
Spiritus lavandulæ . . . . .	q. s.

the spirits of lavender being added merely to perfume the solution. I never prescribe it of that strength, as with equal parts of soap and alcohol even, some of the soap does not seem to be taken up. This alcoholic solution may be used wherever the soap is indicated, but it is more especially useful in the treatment of diseases of the scalp, for shampooing. Whether any of the virtues of the German soap are due to the fish oil is, I think, a matter of doubt, and it certainly is an objection to it, as far as the sense of smell is concerned. I have used our common soft soap in dispensary practice with, as far as I could see, about the same effect, and do not feel at all sure but that a soft potash soap might be made, substituting some more agreeable fatty substance, which would possess all the therapeutical qualities of the *schmierseife*. At least there can be no virtue in the fact that the oil used in its manufacture is rancid, yet I have been told by apothecaries that unless the German soap really stinks, some physicians will not believe that it is genuine. The *schmierseife* is also a convenient agent to produce a certain amount of inflammatory action of the skin. In some chronic cases of eczema or psoriasis, it is advantageous to start up a more active inflammation, and this may be done by spreading the German soap on a piece of cloth and by applying it to the part as a plaster, for more or less time, according to the amount of reaction required. It does not cause vesicles or pustules, but creates an active inflammation which on the irritant's being removed results in desquamation of the external layer of the epidermis.

Poultices are used in the treatment of skin diseases to fulfill the same indications as elsewhere, that is, where warmth, moisture, and softness are required. They are made of the usual ingredients, flaxseed, oat and Indian meal, slippery elm, bread and milk, etc., and in this connection there is nothing especial to be said about them except, perhaps, that when used on an ulcerated or raw surface, it is well to have an old, soft piece of muslin or lace between the poultice and the skin, as it allows the dressing to be taken off as a whole, instead of being scraped off. In addition to this, however, poultices are very useful in fulfilling a special indication, namely, to soften and remove the crusts and scabs formed by the coagulation of pus, serum, sebaceous matter, etc. These crusts often must be removed in order that any application indicated may come in contact with the diseased epidermis, and in many cases the removing of a scab is the first step towards a cure ; for al-

though in a lesion of the healthy skin, such as a scratch, cut, or abrasion, the scab formed seems to be nature's dressing, under which the process of healing goes on quickly and quietly, in a pathological condition, such as, for example, a pustular eruption, the crust acts as a decided irritant, confining the pus and causing a spreading of the ulceration. It is not at all uncommon to see cases of pustular eruptions in children which cause much suffering, each scab being surrounded by an angry red areola, where as soon as the crusts are removed and prevented from re-forming all pain ceases, and the reparatory process begins at once. Moreover, with regard to diagnosis, although the shape and size of the scab will give information, as in syphilitic rupia, for example, it is of the greatest importance to know what the condition of the skin under it is, and of course in order to obtain that knowledge the scab must be removed. Especially in diseases of the scalp are poultices useful to free the skin from the accumulated secretions. For this purpose flaxseed meal, owing to the large amount of oil it contains, is perhaps the best ingredient for a poultice. Where only one or two crusts on the body or limbs are to be removed, a piece of spongio-piline, or a small sponge saturated with oil or glycerine, will do as well as a poultice, and will give less trouble. Cod-liver oil seems to have a decidedly emollient power in softening the crusts resulting from ulcers and secreting lesions of the cuticle, but its odor is with many people an objection to its use.

The indications to fulfill which the many salves or ointments are used, are various: such as, for example, to simply lubricate the skin and keep it soft and pliable when it has a tendency to become dry and hard, or to crack; to protect it from contact with the air or clothes, and especially to prevent the latter from sticking to sore places; to hinder the coagulation of the secretions and scab formation; to bring certain ingredients contained in the salves in contact with the diseased skin, and thus to get their therapeutical action, etc. The variety of ointments used for these different purposes is almost infinite, but one general rule can be laid down for all, namely, that it is of the greatest importance that the fatty substance which constitutes the vehicle with which the different ingredients are combined should be sweet and fresh, and not rancid, as the fatty acids which are generated when such is the case are decidedly irritating. Ointments are applied to the skin either by being directly smeared or rubbed on, or by being spread on pieces of cloth and then laid on as a plaster. In whichever way they are used, the dressing should be removed twice if not three times a day, the skin being thoroughly but gently washed with lukewarm water and castile soap. To mention even a small proportion of the numberless salves used is of course out of the question, but I will briefly refer to two of the most useful ones, as, although very generally used, they are not official.

The benzoated oxide of zinc ointment is one of those most frequently prescribed as a direct application to the skin. Bell's formula for this was to melt over a slow fire for twenty-four hours, in a covered vessel, one drachm of powdered gum benzoin with six ounces of lard, and then to add one ounce of the oxide of zinc. Wilson (Erasmus) improves this by adding to it rectified spirit a drachm to the ounce. The oxide of zinc ointment of the United States Pharmacopœia is made of benzoated lard, and consequently is dispensed indiscriminately for the simple oxide or benzoated oxide of zinc ointment. The amount of gum benzoin in this, however, is so small that it does not at all represent Wilson's modification of Bell's formula. This may, however, be easily imitated by prescribing one drachm of the compound tincture of benzoin to one ounce of our official zinc ointment; the result is a very smooth, light salmon-colored salve, not so emollient as some others, but having a very soothing effect on the epidermis. It can be used on excoriated and inflamed surfaces, and has somewhat of an astringent action. Of the salves applied indirectly, that is to say, as plasters, Hebra's unguentum diachyli is one of the most useful, and is (in Boston at least) pretty generally known and dispensed under that name. It is made by slowly melting and thoroughly stirring during the process equal parts (by weight) of the emplastrum plumbi and olive oil. A drop or two of the oil of lavender to the ounce may be added if the smell is disagreeable, as it is to some patients. In cold weather the proportion of oil will have to be somewhat increased. When properly made it is a very smooth and extremely tenacious ointment, of such a consistency as to be easily and evenly spread with a spatula, and which by the heat of the body becomes softened just enough to keep the cloth on which it is spread in perfect contact with the skin. It also adheres sufficiently to keep the plasters in place, and yet allows them to be removed without much force. We have then here an agent for protecting the surface to which it is applied from the air and the friction of the clothes, for keeping the cutis soft, for preventing the formation of scabs, with a decidedly soothing effect on the skin, so that it can be used even where there is considerable irritation. A curious and important fact with regard to this ointment is that there is no fear of any symptoms of lead poisoning following its use. Hebra states this as a fact, and claims the same immunity from danger for all the lead ointments and washes used externally. I have used it very freely, in one case keeping what was equal to at least one sixth of the integument covered with it for weeks without the slightest bad effect, and that, too, where the greater portion of the parts covered was excoriated and in just the condition which one would suppose to be most favorable to absorption. This certainly does seem extraordinary when we reflect that even the small amount of lead inhaled from the evaporation of fresh paint, or even the smaller

amount contained in a chip from the glazing of a saucepan, has produced very decided toxicological manifestations. On the other hand, we have ample proof that other metals can be absorbed by the cutis, as I have seen three cases where salivation followed one inunction of mercurial ointment, while Hebra tells of a patient who was salivated by one application of the acid nitrate of mercury to a mucous patch.

There is one other ointment, a mention of which in this connection seems appropriate, the *unguentum hydrargyri*. There can, I think, be no doubt that this salve, when kept constantly in contact with the skin, will hasten the reabsorption of the infiltrated lymph, or proliferation of the connective tissue corpuscles which cause the raised papules or tubercles in some forms of chronic skin disease. This action is most marked in eruptions of a specific nature, but is by no means confined to such cases. The *emplastrum mercuriale* of the United States Pharmacopœia is altogether too hard and stiff for use, and even when using the ointment it will in cold weather be necessary to add a few drops of glycerine to it in order to make it of the right consistency to spread easily and adhere properly. It should be spread on a piece of soft kid, and applied as a plaster to the spots the absorption of which we wish to hasten. On some skins it will produce considerable irritation, especially on those parts where there are many hair follicles. The possibility of *ptyalism* should be borne in mind.

Probably no one class of agents is used in cutaneous therapeutics more than tar and its various preparations. Common tar is of such a consistency as not to be easily used, although it can be diluted with oil, but the oils of tar made from the wood of the juniper, birch, and beech trees are now chiefly employed. These all resemble each other in color, consistency, and odor, can be diluted with oil, glycerine, or alcohol, and have the same therapeutical action. That made from the juniper, *oleum cadini*, is far the most commonly used. The *oleum rusci*, made from birch, is better in some cases, as it is less irritating and its odor is more aromatic, resembling that of the well-known red Russian leather. The action of these tar oils seems to be to diminish the congestion of the skin, more especially in a chronic or subacute state, and also, probably as a result of this, to control the itching which is so intolerable a concomitant of some eruptions. They should not, however, be used where there is any acute inflammation, as in such cases they act decidedly as irritants. This irritant action varies much, according to the idiosyncrasy of the patient on whom they are used. On this account it is well at first to dilute them with oil or glycerine, and also not to cover large surfaces of the body at once until we have seen that they are tolerated. This latter precaution should be taken, as in some cases covering a large surface of the body with tar is followed by quite violent symptoms.



The patient will have decided fever, accompanied with vomiting of very black matter, and the urine will be found to be almost as black as ink. These symptoms will cease as soon as the tar is removed, but may be quite alarming at first. I never have seen such results except in Hebra's wards, and only two or three times there; they happened in patients who were tarred from head to foot. I doubt very much whether anything short of a pretty general tarring could call them forth, but it is well to be aware of the possibility of such an occurrence.

The preparations of tar are best applied to the skin with a brush of the broad, flat shape, such as painters use to lay on varnish; this should be soft, and the preparation should be lightly painted over the surface to which we wish to apply it, when the skin is tender and irritated, as in some forms of eczema; but a stiff brush should be used, and the tar thoroughly rubbed in when the condition is more chronic, as in psoriasis, ichthyosis, etc. Tar is also incorporated in a soap which is popularly supposed to be efficacious in abnormal conditions of the skin. Being insoluble and only coming in contact with the skin during the few moments of its use in washing, it cannot have much effect. In the case of acne, for which it is often used, the only result is that it does adhere to the sebaceous matter in the distended follicles which commonly are found in such cases, making these points much blacker and more noticeable than before.

To some patients the topical use of tar is very disagreeable. In carbolic acid we have an agent, the therapeutical action of which is supposed to be about the same as that of tar. This may be used in solution in oil, glycerine, or alcohol, or as an ointment. Except as a means of controlling pruritus, however, I have not found the same benefit from its use; but for one purpose it is invaluable, and that is as a parasiticide. In the proportion of one drachm to one ounce of lard or oil it will destroy very rapidly and surely the vegetable and animal parasites to the presence of which several cutaneous disorders are due. I have never seen any bad results follow its use at that strength, and have used it very frequently and freely.

From the earliest period of medical history sulphur has had a great reputation as an agent for treating diseases of the cutis, not only as an external application but as a laxative by means of which the impurities of the blood may be eliminated. Its reputation undoubtedly arose from the success of its use in the treatment of scabies, as before the parasitic nature of that disease was recognized many cases of it must have been looked upon as eczema or something of that nature. In point of fact sulphur applied locally is an irritant, so much so that even in the treatment of scabies it is often found necessary to combine other ingredients with it to modify its irritant action. When used, except in scabies, it is for the purpose of getting its irritant effect.

Washes are used simply to bring certain substances which they hold in solution in contact with the diseased skin. They have to be renewed frequently, owing to their evaporation. This may, however, be considerably retarded by combining glycerine with the solution.

The use of powders is to absorb the secretions, when not too abundant, to protect surfaces of the cutis that rub against each other, and to have a cooling and soothing action on the skin. Those most commonly used are made of starch, rice, soapstone, the oxide of zinc, etc.

The number of caustics that may be used is very large, varying in the rapidity and thoroughness of their action. With regard to their use as a class there is nothing especial to be said.

*(To be continued.)*

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### A CASE OF PLACENTA PRÆVIA.<sup>1</sup>

#### A PROPOSED MODIFICATION OF THE METHOD OF TREATING PLACENTA PRÆVIA BY RETROVERSION OF THE PLACENTA.

BY W. L. RICHARDSON, M. D.,

*Visiting Physician of the Boston Lying-In Hospital.*

Mrs. H. H., aged twenty-seven, the mother of two children. Both previous confinements, which had been in the western part of New York, were normal. Her last child was born April 13, 1874. The catamenia returned the following August. Her second child was weaned in December. The catamenia continued regular until April 27, 1876, when they appeared for the last time, and ceased on the 2d of May. She quickened about the middle of September.

I first saw her November 26th. Her general health had been, as usual, good since the beginning of the pregnancy. The evening before, while attempting to move a piano, she felt that she "had strained herself." On getting up the following morning she discovered some blood upon her night-dress, and found that she was flowing. Supposing that it was a case of threatened miscarriage I directed her to remain in bed and to send for me at once if there should be any increase in the amount of the flowing, or if she should suffer any pains, from which she had thus far been free. In the evening the flowing had almost entirely ceased, and she complained of no pain. A rest in bed for a few days was advised. I was again sent for December 23d, on account of a slight bloody vaginal discharge. As there was apparently no cause for a return of the flowing, a case of placenta prævia was suspected, and a vaginal examination asked for. So much objection, however, was made to this, that it was not insisted upon, and rest, as before, was ordered. January 19th, I was sent for in great haste, as there had been a sudden

<sup>1</sup> Read before the Boston Obstetrical Society, February 10, 1877.

and somewhat profuse hæmorrhage. A vaginal examination showed the case was, as had been suspected, one of placenta prævia. The implantation of the placenta was lateral, extending two or three inches to the right and about an inch and a half to the left of the os uteri. There were no signs of labor. The os was closed. The cervix was not wholly obliterated. The fœtal heart was distinctly heard, beating at the rate of 130, in the normal position. The patient was seen occasionally from that time until February 2d, when a hæmorrhage summoned me to the house about 9.30 p. m. The patient was in bed, complaining of feeble labor pains, which occurred about every twenty minutes. There was some slight flowing. The os was soft, dilatable, and about the size of a cent. The presentation was normal. A colpeurynter was introduced into the vagina. At eleven o'clock, the pains occurring every ten minutes, the colpeurynter was removed, together with a clot which had formed behind it. The os uteri was a little more than half dilated. The membranes were unruptured. The pains were good, both in character and frequency. Introducing the right hand the placenta was carefully separated from its attachments upon the left side, and, having been drawn down through the dilatable os uteri, was folded over upon the right side of the os. The separation of the placenta was followed by a slight hæmorrhage. The membranes, which had been drawn down with the placenta, were then ruptured with the index finger, while the thumb held the free edge of the placenta in its retroverted position. There was a free gush of the liquor amnii, in the midst of which unfortunately the funis was prolapsed. The pains at once increased in frequency and severity, the head descending through the superior strait. The funis was pushed into the left posterior quarter of the pelvic brim, where it would be least exposed to pressure. The os dilated rapidly, and at 12.30, as I was unwilling to run any risk of a subsequent pressure on the funis, the forceps were applied and the patient was delivered of a girl weighing six and a half pounds. The uterus contracted well, and the placenta was found immediately afterwards lying detached in the upper part of the vagina. The patient had a normal convalescence.

The method of delivery adopted in this case was that taught in Vienna and recently described and brought to the attention of the profession in this country by Dr. Davis of Wilkesbarre, Pennsylvania.

In two other cases, in which I have followed the same method, the result has been successful to both mother and child. In this case, however, the prolapse of the cord was an unexpected complication, but it was an accident liable to occur in all cases where there is an excess of liquor amnii, or where, for any reason, the presenting part of the child does not lie immediately above the dilating os uteri. This complication of the case, however, could be avoided by rupturing the mem-

branes by means of a catheter introduced high up between the membranes and the uterine wall, on the side from which the placenta has been detached. In this way there can be no danger of any such sudden escape of the waters as is likely to follow a rupture made at the dependent part of the amniotic sac. In all cases, where an examination shows a considerable amount of water in advance of the presenting part, it is safer to rupture the membranes in this way, since otherwise there is always liability to a prolapse of the cord, and especially is this likely to happen, when the case is one of placenta prævia, in which the cord is so apt to lie at the lower part of the uterus and in the position most favorable to the occurrence of a prolapse.

With this slight modification of the above method of treating placenta prævia, it would seem as though the method described by Dr. Davis and followed in this case was by far the safest of all which have heretofore been recommended by obstetricians for the treatment of this class of cases. The danger to the child is to a great degree avoided, since there can be no foetal hæmorrhage while the retroverted portion of the placenta is kept firmly pressed against the opposing uterine wall; and the danger of a maternal hæmorrhage is reduced to a minimum, since the rupture of the liquor amnii prevents the substitute of an unsuspected internal for an external hæmorrhage, while at the same time, it hastens the completion of the delivery by the promotion of uterine contractions. Should, however, severe external hæmorrhage take place, the application of forceps will in all cases at once speedily terminate the case.



## RECENT PROGRESS IN ANATOMY.<sup>1</sup>

BY THOMAS DWIGHT, M. D.

*Liver.*<sup>2</sup>—The gross and minute anatomy of this organ, and the changes which it presents during development, have been carefully studied by the two first-mentioned authors. The presence of vasa aberrantia, that is, gall ducts large enough to be seen by the naked eye, lying in the folds of the peritoneum which form the ligaments, is an old observation, but we believe that a conclusive explanation of their occurrence in such peculiar circumstances has not been given. These vessels imply an atrophy of the hepatic tissue. The shape of the liver, as is well known, is not the same in the infant and the adult, and the change is due to atrophy of some parts as well as to a disproportionate growth of others. The left lobe is perhaps the chief seat of the atrophy. The authors point out that the left triangular ligament of the embryo

<sup>1</sup> Concluded from page 261.

<sup>2</sup> Toldt and Zuckerkandl Sitzungsbericht. der Akademie zu Wien, 1875. Kolatchewsky. Archiv für mikroskopische Anatomie, Bd. xiii. Heft 2. Budge. Arbeit aus der physiologischen Anstalt zu Leipzig. 1876.

is inserted, not into the posterior border, but into the convex surface, and it may happen that a part or the whole of that portion of the liver between these two folds may lose its hepatic characters, that is, the liver cells, and there may remain only a variable amount of connective tissue, blood-vessels, and ducts, now appropriately known as *vasa aberrantia*. They are found also in the folds of the falciform ligament and in the slight band of fibrous tissue, which once was liver, that surrounds the vena cava. The description of the development of the blood-vessels is of little importance, but that of the cells and the formation of the bile ducts is more valuable. The cells of the foetal liver are both polygonal and spherical; the former are those observed at the earlier stages. The polygonal ones differ from those of the adult by the greater clearness of their protoplasm and greater relative size of the nucleus. Cells with two nuclei are not uncommon. The spherical cells cease to be found shortly after birth. The liver cells at birth are but half as large as those of the adult, and it has been said that the growth of the liver is due to the increase in size of the cells, with of course the concurrent growth of the blood-vessels. Our authors are inclined to think these causes insufficient to make the liver of the adult ten times as large as it is at birth, and owing to the frequency of cells with two nuclei believe that there is an increase in their number. The liver in its earliest stages is a tubular gland, the tubules being quite irregularly arranged and forming a net-work. These tubules are without other walls than the cells, which according to these observers are polygonal till about the tenth week, when spherical ones are also found. The tubules in the neighborhood of the interlobular vessels become the branches of the hepatic duct, and the others the bile capillaries that empty into it.

Kolatschewsky has investigated the origin of the bile ducts, and has come to quite novel results, which however can by no means be accepted as demonstrated. By macerating the liver both of adult animals and the human foetus in bichromate of ammonium to isolate the cells, he has frequently found cells with cylindrical processes, apparently continuations of the body of the cell. He has found cells connected by such structures, and once at least has found the processes from two cells uniting into one and then subdividing. These processes appear to have walls, as indeed they must, owing to the action of the reagent. Whatever the signification of these appearances may be, there certainly is no evidence to show that they are the origins of the bile ducts, and we think that several arguments could be advanced against the plausibility of the view. The same author has demonstrated by means of gold very rich plexuses of nerves in the liver, forming a net-work around the interlobular vessels, from which still finer fibres enter the lobules and intertwine the capillaries.

The lymphatic system of the liver has received a good deal of attention, which has not borne much fruit. Budge has made some progress, but still there is much that is obscure. Lymphatic spaces with their characteristic endothelium cannot be demonstrated in the liver except in the sheaths of the veins. Nevertheless he found it possible, by thrusting the canula into the wall of the hepatic vein, to inject not only the lymph spaces in its branches but those in the system of the portal vein, and also undoubted lymphatics of the peritoneum. He concludes that there are true lymph spaces in the walls of both the portal and hepatic veins, and that these systems are connected by what we may call "indefinite" spaces around the intermediate capillaries.

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## PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

ARTHUR H. NICHOLS, M. D., SECRETARY.

A STATED meeting was held in Roxbury, on Tuesday, January 9th, at eleven A. M., the president, DR. J. P. MAYNARD, in the chair. Present fifty-three members.

*Extra-Uterine Fœtation: Operation: Recovery.* — DR. D. D. GILBERT reported this case, which terminated successfully as regards both mother and child. The patient was thirty-seven years of age, of exceedingly nervous temperament, and of small stature, weighing but one hundred pounds. She had previously given birth to three living children, — the oldest being twenty years of age, the youngest eight, — and had, moreover, been the victim of four miscarriages, in one of which there was a twin conception. Two of these miscarriages had occurred since the birth of her youngest child. For five years before she had been subject to repeated copious hæmorrhages from the rectum, though it could not be ascertained that the conditions giving rise to this hæmorrhage had any part in determining the subsequent ectopia of the ovule. In February, 1876, having ceased to menstruate about the middle of the previous October, she began to experience strange sensations, which led her to suspect that she might be *enceinte*, or that possibly some obscure abdominal tumor might be forming. About the latter part of May she thought she felt a slight motion in what appeared to be a small tumor situated low down in the pelvis. The enlargement of the abdomen was at this time so slight as to be scarcely perceptible, the girth of the waist not being increased at all; nor indeed was there any notable enlargement of this circumference up to the time of delivery. The first examination was made by Dr. Gilbert, June 11th, when the abdomen was found to be the seat of a tumor about the size of an ordinary gravid uterus at the period of five months. This enlargement was evidently formed by the uterus, though situated low down and somewhat to the right. Auscultation gave feeble, but distinct, fetal heart sounds. The diagnosis of pregnancy was not fully concurred in by the patient, her feelings being, as she asserted, totally different from those of all previous pregnancies. On June 25th and July 2d, severe cramping pains were

experienced in the abdomen, and these pains thenceforward recurred each night until July 10th, when genuine labor pains were found to have set in, the womb contracting with each pain. A vaginal examination, however, gave no other signs of commencing labor; in fact the os and cervix seemed like those of a uterus at the period of six months, while their muscular tissues did not appear to participate in the uterine contractions; nor was there any downward pressure of the fœtus upon these parts with the labor pains. The pains ceased at this time, but returned upon the 11th with increased violence, but still different, she maintained, from any experienced in former labors. A vaginal examination revealed an undilated os. When, however, the finger was swept round the outside of the cervix, the right side was found to be enlarged, and communicated the sensation of a fœtal head within the womb. Within the cervix, the finger passed unhindered into the uterine cavity. The tissue lining the left of the organ seemed to the touch almost like that of non-gravid uterine tissue; upon the right side, just within and at the edge of the os, a fœtal head could be distinctly felt, covered by a thin mucous membrane, which seemed to participate, in a degree, in the uterine contractions that were going on. There remained, therefore, no doubt as to the existence of interstitial pregnancy. Deeming the condition of affairs at this juncture too critical to justify any delay for consultation, Dr. Gilbert took a "Miller's uterine scarificator," and passing it along the finger within the cervix carefully divided, by an incision about one inch long, the septum between the vicarious and the true uterine cavity. The operation was attended with slight hæmorrhage, and the pains soon began to diminish in severity, until, at the expiration of an hour, the patient was quite comfortable, and passed a quiet night. The next day, the unruptured membranes inclosing the fœtal head were found presenting at the os, as in normal labor, but there were no labor pains. At five P. M., upon the day following, July 13th, the pains were renewed and progressed naturally, terminating at eleven A. M. in the birth of a poorly nourished child, weighing four pounds. At the end of six weeks this child died from inanition. The liquor amnii was quite scanty; the placenta and cord presented nothing abnormal. The mother made a good recovery at the end of five weeks. The mammary secretion was entirely absent. Menstruation was renewed in about three weeks after confinement, and there has since been but slight hæmorrhage from the bowels.

Dr. Gilbert gave an interesting and concise résumé of our knowledge respecting ectopic fœtation, describing the various causes, symptoms, and varieties of this accident, and the ways in which this condition may terminate. He alluded to the cases recently reported by Professor T. G. Thomas, of New York, in one of which the contents of the fœtal cyst were successfully removed, after a section of the vagina had been made by means of the galvanic cautery. He gave also the details of a case of tubo-uterine pregnancy reported by Dr. H. Lenox Hodge, in which labor was brought on at about the eighth month by dilating the os uteri. The structure covering the fœtus was then divided, and extraction was effected by means of the blunt hook passed over the edge of the thigh, the breech having formed the presenting part.

Dr. Gilbert expressed the opinion that the result accomplished artificially

in the cases reported by Dr. Hodge and himself might possibly have been attained by the natural uterine contractions unaided, provided the peritoneo-uterine walls were strong enough to sustain the tension. In case the internal wall of the sack in interstitial pregnancy were not very thick it would not be impossible for such a rupture to take place without the knowledge of either patient or accoucheur. Such a spontaneous rupture may indeed occur not unfrequently at an earlier period of gestation, by which means an interstitial pregnancy is converted into a normal one. Such a course would only be in keeping with what is known of interstitial uterine fibroids, which are often converted into intra-uterine fibroids by the efforts of nature.

DR. HENRY A. MARTIN recalled a case of tubal pregnancy, reported in 1862 by Dr. George Osgood of Andover.<sup>1</sup> In the case referred to, at the expiration of nine months' pregnancy, labor apparently set in, but the pains gradually disappeared without accomplishing anything; and although the woman suffered for some time afterward, she eventually recovered, lived seventeen years, and bore five living and fully developed children, besides going through some six or seven abortions. The autopsy revealed the presence of the bones of a full-grown foetus in the greatly enlarged but entire left Fallopian tube, which was adherent to the colon and also to the peritoneum. The walls of the tube were nearly half an inch in thickness. The uterus and right Fallopian tube were in a sound condition. The result of this and numerous similar cases afforded cogent reasons for concluding that in ectopic foetation the best course to pursue, as a rule, is that of non-interference, trusting rather to nature. Experience demonstrates that the apparently innocent operation of puncturing and aspiration of the cyst proves generally, if not invariably, fatal.

*Cold-Water Baths in some Acute Diseases.* — DR. J. S. GREENE read a paper upon this subject. He first called attention to the well-known danger attending a very high temperature of the body, and to the power of cold water to lower the temperature, and alluded to some obstacles to the ready acceptance of this method of controlling the fever temperature, commonly met with in private practice. The observation of Bartholow,<sup>2</sup> that "cold baths are of equal utility in scarlatina and typhoid fever," while true enough for a general statement, will admit of some qualification. It should be borne in mind that in scarlatina the influence of the bath is not aided by the daily oscillations of temperature which occur in typhoid; while in some cases of scarlatina the good effect of the bath is antagonized by stasis of blood in the cutaneous capillaries, by which means the diffusion of the cooling influence throughout the body is hindered. Dr. Greene stated that during the past five years he had made extensive use of warm, tepid, or cold baths in cases of scarlatina, and with excellent results. He described his customary management of the person and surroundings of the patient. He narrated the case of a young, delicate child, affected with scarlatina and double pneumonia, where towels wrung from cold water and constantly renewed, applied around chest and head, with active friction and dry heat to the extremities, was promptly

<sup>1</sup> Communications to Massachusetts Medical Society. No. II. Part II.

<sup>2</sup> Therapeutics and Materia Medica.



followed by a resolution of the pneumonia, while there occurred coincidently a decided relief of such symptoms as coma, oppressed respiration, leaden-colored rash, and cool extremities, with pulse of 160 and temperature of 106° F. In this instance the primary disease, scarlatina, went on to a fatal issue in three weeks, but the case served, nevertheless, to illustrate the following generalizations with which the paper concluded :—

(1.) That a rise of temperature, whether sudden or gradual, sufficient to indicate danger, demands the prompt resort to energetic measures designed to reduce the heat of the body ; and that cold-water baths form the most prompt and efficient, and often the only available agent to this end.

(2.) That neither infancy nor enfeebled vitality constitute contra-indications to this treatment.

(3.) That local congestions accompanying or contributing to produce such high temperature do not form a contra-indication to this treatment, but, on the contrary, definitely aid in determining the manner in which the cold baths shall be applied.

(4.) That this mode of treatment, while an invaluable resource in dealing with certain definable conditions having a grave prognostic significance, has not any specific curative power ; some cases will prove fatal in spite of its judicious use, and many more will succumb under phases of disease, where measures for the mere lowering of febrile temperature have no influence and no proper application.

DR. H. A. MARTIN thought that the custom now prevalent of treating scarlatina and certain other acute diseases by means of cold-water applications afforded an excellent instance of the freaks of fashion in the matter of therapeutics. This method of treatment by means of cold water was fully and explicitly laid down in the works of Curran, and was practiced to a great extent in the early part of the present century, to be subsequently abandoned and even forgotten. At present the advocates of cold-water treatment are greatly overdoing the thing. One of the objectionable results of their enthusiasm is that the undeserved stigma of *crassa negligentia* is not unfrequently attached to such physicians as may not deem it advisable to resort to this system. In like manner, the eighteenth century and the first part of the nineteenth witnessed the wholesale employment of calomel and other forms of mercury in almost every variety of disease ; whereas, at the present time, it is considered by certain physicians a matter for exultation, that under no circumstances is any form of this valuable mineral resorted to by them. In nearly all systems and modes of treatment, there are to be found some grains of good, which the progressive physician will be willing to utilize, while he should not hesitate to discard that which is worthless. Dr. Martin thought that great credit should be attributed to Preissnitz for having demonstrated in precisely what cases cold effusions are applicable or inapplicable.

DR. S. E. STONE remarked that in order to counteract the popular prejudices against cold baths in fevers, he had lately resorted to the employment of the tepid wet sheet, which produced all the favorable results of cold effusion.

DR. MARTIN preferred to have the patient laid upon rubber or oiled silk,

and then sponged with as cold water as the attendants could be prevailed upon to employ.

*Improved Adhesive Plaster.* — DR. MARTIN exhibited a new and improved form of adhesive plaster. He said that it was some sixteen years since the late venerable and distinguished Josiah Crosby had introduced to the general notice of our profession a method which was now universally accepted as one of the very greatest advances in surgical practice. He alluded to plaster-strap extension in fractures and in orthopedic surgery. Since this advance in our art was inaugurated, a sticking plaster that could answer all requirements has formed a great desideratum. There are numerous objections to our ordinary "spread" plaster. It lacks strength, and is therefore apt to soften and yield to the extending force, particularly in warm weather. If kept for any length of time it deteriorates, owing to the oxidation of the lead contained in it. Dr. Martin had been a frequent witness of infinite trouble in the use of adhesive plaster in military surgery in the field. Great quantities of it became worthless; and when, even in its best state, conveniences were wanting for softening it by the application of heat, it was customary to restore the adhesive quality by sponging it with chloroform, a method which answered very well, but which would commonly prove too expensive to patients less affluent than "Uncle Sam." Maw's mole-skin plaster is manufactured in London. This is ordinary adhesive plaster spread upon a very thick, strong, cotton fabric, and is by far the best in the market for important surgical and orthopedic purposes, being extensively imported. It is, however, very expensive, and open to all the objections to common plaster, except that of weakness. A so-called gum plaster is being introduced in New York, the objection to which is that its ingredients are combined by use of a solvent like naphtha, and this agent produces irritation of the skin, resulting in a form of eczema. The plaster now introduced to the profession by Dr. Martin is composed of India rubber and Burgundy pitch in about equal proportions, a very small amount of some other gum-resins and less essential substances, introduced chiefly for convenience of manipulation. The adhesive compound is spread upon a strong drilling cloth, and presents the following important advantages: it contains no solvent whatever, and hence can be used with impunity upon the most sensitive skin. When brought into apposition with the skin, it adheres at once and at all temperatures, without the application of heat, and instead of losing its hold after a while, it clings with increased tenacity, not becoming detached or loosened, even when the parts around it are bathed with cold or tepid water. This peculiar adhesiveness and the strength of the cloth upon which it is spread constitute its chief advantages. Experiments are being made with a view to applying the adhesive compound to water-proof cloth, applicable to certain surgical exigencies; and if these attempts are successful, the last desideratum will have been met. The piece exhibited to the society was spread four months previous, and was shown to have lost none of its adhesive qualities, and it was asserted that other specimens of experimental plaster made seven and eleven years ago still retained this important quality.

Dr. Martin distributed several specimens of the plaster among the mem-

bers for trial, and expressed his willingness to furnish it to any physicians applying for it, with the view of subjecting it to the only proper test, namely, that of actual use.

*New Processes for making Crystallized Phosphoric Acid and Hydrobromic Acid.*—PROFESSOR GEO. F. H. MARKOE exhibited: (1.) A specimen of crystallized tribasic phosphoric acid, not to be confounded with the glacial phosphoric acid of commerce, which is always adulterated with thirty to forty per cent. of phosphate of sodium, added for the purpose of imparting solidity, and in order that it may be made to assume the form of sticks. This peculiar form of the crystallized phosphoric acid is made by a novel and less dangerous process, devised by Professor Markoe, and presented to the American Pharmaceutical Association at their meeting in Boston in 1875, and published in the Proceedings of that year. The dilute phosphoric acid of the Pharmacopœia contains ten per cent. of the tribasic crystals; though a stronger solution for the convenience of druggists is now made, containing fifty per cent. of the phosphoric acid. In accordance with the old process, phosphoric acid is made by boiling phosphorus with diluted nitric acid, which requires constant watching and involves great liability to accident. Diluted phosphoric acid made from glacial acid, as authorized by the second process of the Pharmacopœia, is not only deficient in strength, because largely adulterated with phosphate of soda, but is also incompatible with the tincture of the chloride of iron, with which it is frequently desired by physicians to combine the acid.

(2.) A specimen of diluted hydrobromic acid, containing about ten per cent. of real HBr. This acid, though long known as one of the most important compounds of bromine, has only recently come into extensive use medicinally. The process suggested hitherto for making a medicinal acid yields an impure acid. It is made by decomposing bromide of potassium by an equivalent quantity of tartaric acid, and hence the solution of the acid is contaminated by the bi-tartrate of potassium. The acid exhibited by Professor Markoe, though more difficult to make, has the advantage of being a pure diluted hydrobromic acid, corresponding in strength with that made by the ordinary process.

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### FOTHERGILL'S THERAPEUTICS.<sup>1</sup>

"THIS work is not an imperfect Practice of Physic, but an attempt of original character to explain the rationale of our therapeutic measures. First, the physiology of each subject is given; then the pathology is reviewed, so far as they bear upon the treatment; next the action of remedies is examined; after which their practical application in concrete prescriptions is furnished. It is not essayed to give prominence to new remedies or new therapeutic measures so much as to analyze and elucidate the *modus operandi* of the measures in common use. It is designed to furnish to the practitioner reasons for the faith that is in him, and is a work on medical tactics for the bedside rather than the examination table."

<sup>1</sup> *The Practitioner's Handbook of Treatment; or The Principles of Therapeutics.* By J. MILNER FOTHERGILL, M. D., Member of the Royal College of Physicians of London, etc. Am. Ed., 1 vol. 8vo, pp. 575. Philadelphia: Henry C. Lea.

Such is the statement given by the author of this work, in his preface, of the object he had in view in preparing it, and of the plan which he has followed in its preparation. The object is one of the most important which a medical writer can propose to himself, for therapeutics is the goal of medicine, and the plan is an excellent one. In justice to Dr. Fothergill we ought to say that he has adhered to his plan throughout the work with fidelity, and has accomplished his object with a rare degree of success. We heartily commend his book to the medical student as an honest and intelligent guide through the mazes of therapeutics, and assure the practitioner who has grown gray in the harness that he will derive pleasure and instruction from its perusal.

To write a book on therapeutics is one of the easiest, and one of the most difficult, tasks which can be undertaken. It is an easy task to one who limits himself to the compilation or reproduction of traditional and current opinions, and to the presentation of routine modes of treatment; who is satisfied with teaching that nitre is good for fever and opium for pain, senna for constipation and iodide of potash for "humors." It is a most difficult task to one who, building on the broad and solid basis of fact, endeavors to found therapeutics upon what physiology has disclosed of the normal processes of the body; pathology, of its abnormal processes; experimental research and rational empiricism, of the action of remedial agents; and clinical observation, of the behavior of disease under the manifold and varying circumstances which affect the causation, progress, and termination of maladies. A book on the art of healing designed in accordance with the former of these two plans, even if its author were intelligent and accomplished, would be worthless; one prepared in the latter way, by a person of fair abilities and decent attainments, would be valuable, and might be invaluable. Dr. Fothergill has wisely chosen the better part. The excellent results of his labors, in the direction we have indicated, may be seen in the volume before us.

The book consists of two parts, which divide it about equally. The first half treats of the general principles which, derived either from physiological research or from the accumulated stores of experience, underlie and to a greater or less extent modify the Protean forms of disease, and serve to guide the practitioner in the selection and application of remedies. These principles are discussed under the heads of Assimilation, Excretion, Body Heat and Fever, Inflammation, Anæmia, Growth and Decay, Abnormal Growths, Blood Poisons, Acute and Chronic Disease, Action and Inaction, and of three maladies, Diabetes, Gout, and Rheumatism, which are so intimately connected with the process of assimilation that they are appropriately considered in connection with it. The influence which these processes, some of which are physiological and others pathological, exert over the causation and modification of disease, and the extent to which they may be guided and controlled by treatment are clearly presented. The necessity resting upon every practitioner who has intelligence and ambition enough to rise above the low level of empiricism and routine to keep these principles constantly before him, as a mariner does his chart, never forgetting in the perplexities of the sick room that the condition of his patient's system, and not a peculiar entity called disease, and

above all not a mere name like erysipelas or bronchitis must form the prime factor in his treatment, is fully explained, illustrated, and enforced. This is a matter of such importance that it can scarcely be overestimated. We rejoice that our author has given to it the prominence it deserves.

The second part is an application of the principles laid down in the first part to the various disorders of the organization, and points out the rational method of adapting remedial agents to the indications of disease. In doing this, the value of therapeutic measures is properly insisted upon instead of the specific action of drugs. *Maladies* are described in groups, not as individuals, and the appropriate treatment of each group is broadly but distinctly sketched. The groups are formed by associating together affections which have a natural bond of alliance with each other: as diseases of the circulatory system; the respiratory system; the digestive system; the urinary system; the reproductive system; the cutaneous system; the lymphatic system; and the nervous system. Two chapters, one on public and private hygiene, and the other on food in health and ill health, conclude this part. A chapter, describing the ideal physician at the bedside, with some remarks on medical ethics, forms a fitting termination of the work.

Such is a rough outline of *The Practitioner's Handbook of Treatment*; an outline, the details of which we advise our readers to fill out for themselves by a careful perusal of the treatise. We have commended it heartily and honestly, for it deserves commendation, but in doing so, we do not mean to say that we give an unqualified assent to all of its positions and statements. It presents some views which we hesitate to accept, advocates some therapeutic measures which are of doubtful utility, and gives to some drugs a prominence which they do not deserve. We should criticise, for example, some of the statements about cerebral anæmia; use alcoholic medication with less freedom than is here advised; and not give to antimony so honored a place in the *materia medica*. But it would be extraordinary, probably impossible, for any one, however great his attainments, large his experience, and sound his judgment, to write a book on therapeutics which would command universal assent. This is not to be expected, perhaps not to be desired.

It is an ungracious task to hunt through a work for errors and defects, and call attention to them. When they are serious and likely to mislead, they should be faithfully exposed and condemned, however disagreeable the labor of doing so may be. In the present instance, no such unpleasant duty is imposed upon us. The imperfections and errors which we have noticed are few and unimportant. On the other hand, the excellencies are many and patent. Valuable suggestions and material for thought abound throughout. The chapters on body heat and fever, inflammation, action and inaction, and the urinary system are particularly good. The descriptions of pathological conditions, and the character of the therapeutic measures advised give evidence of sound clinical observation. We should be glad to confirm these statements by one or two long quotations, but this is forbidden by our limited space. We venture, however, to quote the following brief paragraph on albuminuria, which is a fair illustration of our author's style, and of the soundness of his views upon a perplexing matter.

"Albuminuria is a valuable symptom when carefully appraised, but it will not settle the question of renal disease. It is a symptom not to be neglected, but it has been sorely abused; it has covered much culpable carelessness, and occasioned much mischief. The man who would make the diagnosis of chronic renal disease turn on the presence or absence of albumen is a man whose patient I should not like to be. The silent progress of interstitial nephritis is often without albuminuria for long periods; the absence of albumen, therefore, does not contra-indicate the presence of disease, even when far advanced; at other times albuminuria is a temporary condition of no real importance. Albuminuria derives its significance from the conditions under which it occurs; and the great matter is to arrive at a knowledge of those conditions, after which only can we appraise the value of this symptom. This view of the matter is too little insisted upon, even by those who know well the value of the testimony furnished by albuminuria" (p. 396).

The style of the treatise is uniformly good, always lively and agreeable, and often brilliant. We are sorry to qualify this statement by saying that occasionally words and expressions are used, which indicate carelessness or bad taste. Thus "norm" appears repeatedly, a word which grates on our ear like a discord, and looks on the printed page as if it were normal with its tail docked. "Diagnose," of which the final syllable suggests the nasal speech of a Yankee pedagogue, instead of the sonorous diction of an Englishman, is often employed for diagnosticate, substituting inelegance for elegance. In like manner, "nextly" occurs, a poor and needless substitute for next. The coinage of new words is clearly justified by necessity, but when an author discovers the necessity and acts accordingly, the new coin should be of good stuff and well made. Unfortunately, "anhidrotic," which is offered to the public, is neither needed nor properly compounded. Were such a term required, it should be antihidrotic. When a foreign language supplies an expression for which there is no English equivalent, it is pardonable to call in the aid of a foreigner, but when such is not the case, it is pedantry to do so. Dr. Fothergill speaks of a "*souçon* of homœopathy," when a flavor of homœopathy would have expressed the same idea with greater elegance, and would have been honest English speech. These are slight blemishes, however, and we should not allude to them, were it not that medical writers are often culpably negligent in their style, and it is well to remind them of their short-comings in this respect. Tyndall and Huxley are masters of rhetoric as well as of science, and the rapid and large diffusion of their views may be fairly attributed, in part, to the nervous and elegant language in which their ideas are clothed. Truth is none the worse for wearing an attractive garb.

We ought not to close this notice, without expressing our appreciation of the form in which the American publishers have offered this volume to the public. It is printed on good paper, and with a large and clear type which it is a pleasure to read.

E. H. C.

## VITAL STATISTICS OF RHODE ISLAND IN 1875.

RHODE ISLAND is one of the few States which have followed the example of Massachusetts in the systematic registration of births, marriages, and deaths, and in the annual publication of the compiled material with editorial comments thereon. We hope the time will come when in every State throughout the Union the record of vital statistics shall be obligatory. Indeed, it is not unreasonable to anticipate that, beside such state registration, there will be a central national bureau of vital statistics, whose office it shall be to collect, analyze, and compare the data supplied by the entire country, and to give publicity to the exceedingly valuable deductions possible from such an array of data. One of the advantages of such a general organization would be a uniformity of classification, even now very greatly desired in state and city registration.

The report on the vital statistics of Rhode Island for 1875<sup>1</sup> is prepared by Dr. Caswell, and it shows the same care and completeness which have characterized his work in previous years. We appreciate the labor involved in a report of this kind.

In 1875 the births and deaths were slightly more numerous and the marriages less, in proportion to the population, than in 1874. The death-rate was 16.7 per 1000 of the population, less, it will be observed, than the 17 per 1000 which Dr. Farr has estimated as the mean urban and rural death-rate.

The births in 1875 were in the ratio of one to every forty of the population; in Massachusetts, the same year, the ratio was one to every thirty-seven persons. Both these ratios are low in comparison with those in England and Germany, owing in great measure, no doubt, to defective birth-registration in this country.

The still-born are considered as a class by themselves. This exclusion of still-births from the statistics of deaths seems to us reasonable and proper. There appears to be no strong argument for placing them, as is sometimes done, among the causes of death, under the order of developmental diseases. If American statisticians could come to an agreement upon this matter and abide thereby, much would be gained in the interest of uniformity.

In 1875 there was the record of one mother in Rhode Island who had borne eighteen children. During the nineteen years ending in 1875, there were four women who had each borne nineteen children, two who had borne twenty each, two who had borne twenty-one each, and two who had borne twenty-two each. The enumerators of the census of Massachusetts, in 1875, found three mothers who had each borne twenty-three children, two with twenty-four births each, and four with twenty-five births each, "and the statements are well authenticated."

We observe that, as is usual in American registration reports, the statistics in the present report are distributed according to nativity and parent-nativity. We cannot but regard any classification of this kind as an uncertain basis upon which to found conclusions of an ethnological character, because the term

<sup>1</sup> *Twenty-Third Report upon the Registration of Births, Marriages, and Deaths in the State of Rhode Island for the Year ending December 31, 1875.* Prepared under the direction of J. M. Adderman, Secretary of State. By E. T. CASWELL, M. D. 1877.

"American" is so comprehensive, including, so far as vital statistics are concerned, every person born in America though of distinctly foreign stock. Even if we seek to avoid this by comparing data of parent-nativity, the difficulty is lessened, not removed, each new year's statistics comprising a numerous class of children, born and dying, who trace their distinctly foreign lineage through two or more intermediate American generations. For example, a child born to-day and dying next week in Providence is the direct lineal descendant of an Irish couple who came to America in 1850, bearing the same family name with them and possessing similar physical and mental traits; yet this child's birth and death are reckoned "American," because he and his parents were born in America, although his grandparents were born in Ireland and ethnologically the child is Celtic.

We observe that the Rhode Island registration law received in 1875 two salutary amendments; we should like to see similar provisions made obligatory in Massachusetts. One of these amended sections requires a medical certificate of the disease or cause of a death or still-birth to be given within *forty-eight hours* after the death or still-birth; the other requires that undertakers shall not bury, remove, or otherwise dispose of the remains of any deceased person without having first obtained the physician's certificate above alluded to.

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## HINTS TO CONTRIBUTORS.

WE recommend to the perusal of all those who write for medical journals some very sensible remarks which have appeared in a recent number of the *Medical and Surgical Reporter*. Apart from any criticisms on style or quality of the material they produce, matters disposed of by a very summary and simple process, we would venture to call attention more particularly to those remarks which bear upon the preparation of manuscript for the press. Even those who write frequently appear to be unaware that "copy" must be placed in the printer's hands precisely as it is to be set up. The type-setter has no more license to vary from the manuscript than the apothecary has to depart from the precise mandates of a prescription. All pernicious habits of abbreviating, underlining, interlining, lavish use of capitals, neglecting punctuation, headings of subjects, and the like, to say nothing of disregard of common rules of grammar and chirography, throw an amount of work upon both editor and printer of which few writers have any conception. Were even a tolerably well-written article to appear precisely as received from the author's hands, faults almost imperceptible in the manuscript would crop out with surprising frequency. The extreme caution evinced by some veteran writers in regard to everything prepared by their pens is in striking contrast with the recklessness of, we might say, a very large number of contributors. The former appreciate the importance of weighing carefully every word which is to go permanently on record. The latter rush in where the former wisely fear to tread. As to the faults in style we refer the reader to the article in question. The writer says:—

"The editor of a scientific journal has occasion constantly to compare re-



ports of observations from different pens, and to perceive how often writers bury their wheat in a multitude of chaff, to the great detriment of themselves and their readers. Some mention of the more common of such errors will not be out of place.

"The first and most distressing to such an editor is an effort at *style* — that is, the effort, not so much to tell facts, as to tell them in a particular manner. Thus we have seen reports of clinics where the patients were described in the phrases of a dime novel. Chlorotic girls had 'pale and anguish-stricken countenances,' etc. In other instances the writer aims to relieve his subject by a flow of humor.

"Next is *diffuseness*. It is so much easier to climb by a circuitous path than to walk straight up, that the first draft by an unpracticed writer is certain to be at least double its proper length. In reporting cases it is not necessary to detail pulse, temperature, respiration, etc., at each visit, but only where such changes bear on the lesson the report designs to teach. Often extraneous matter about irrelevant previous history, or other patients, is inserted, which has no business in the report at all. There are very few articles in medical journals which should exceed eight or ten foolscap pages in length.

"A disagreeable fault in quotation is the use of hackneyed commonplaces, such as 'the ill which flesh is heir to,' 'knowledge is power,' and the like.

"All *personalities* should be rigorously excluded. Scientific men are often sensitively jealous; and physicians are liable to suffer in purse when their scientific knowledge is proved at fault. As for 'showing up' quacks, an extended observation inclines us to believe that, as a rule, the more they are shown up the more they thrive.

"Some minor oversights are also enough to lead many an editor to reject an article on account of the needless trouble they cause him. Every one who writes for the press should use *black ink* and *white paper*, not lead pencils, nor colored sheets, which render even a good hand illegible; he should *never* write on both sides of the same sheet, for good and sufficient reasons known to every printer, and needless to explain; he should *never* end his note to the editor with words to this effect: 'I have written the inclosed paper in a great hurry, and have not had time to correct it. Please do it for me.' The editor, nine times out of ten, has a great deal more to do than the writer, and if the latter does not take the trouble to clothe the progeny of his own brain in proper garb he cannot expect others to do it for him. Whatever is sent in should be carefully prepared and clearly written."

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#### CORONER A. W. K. NEWTON.

IN an editorial which appeared in this journal September 16, 1875, we took occasion to protest against the appointment of A. W. K. Newton as coroner, on the ground that he was an unfit person to hold so responsible a position. The result of our protest was, as our readers are aware, a libel suit in which the damages were laid at twenty thousand dollars. We immediately set to work collecting evidence with which to make good our statements. Unfortun-

nately, when the case came to trial, we were unable to make public the evidence we had obtained, owing to the fact that the plaintiff abandoned his suit, the decree of judgment for the defendant being entered without the case coming to trial. The presentation of the following petition to the legislature last week, however, bids fair to reopen the question of Newton's fitness for his position, and we hope at an early day to make public through legislative channels evidence which was prevented from appearing, by circumstances over which we had no control, in a court of law.

[Copy.]

*To the Honorable Senate and House of Representatives, of the Commonwealth of Massachusetts, in General Court assembled:—*

The undersigned petitioners, citizens of Massachusetts, respectfully represent that they believe A. W. K. Newton, one of the coroners of the county of Suffolk, to be an unfit person to hold the office of coroner, and have information that in inquests held in the said county he has violated the laws of the Commonwealth relating thereto; wherefore your petitioners pray your Honorable Houses that you will make your address to his Excellency the Governor for the removal of the said A. W. K. Newton from his office as coroner.

D. HUMPHREYS STORER.	CHARLES E. WARE.
HENRY I. BOWDITCH.	JOHN P. REYNOLDS.
HENRY W. WILLIAMS.	JAMES C. WHITE.
C. ELLIS.	WILLIAM INGALLS.
C. D. HOMANS.	DAVID W. CHEEVER.
EDWARD H. CLARKE.	BENJAMIN E. COTTING.
FRANCIS MINOT.	JOHN G. BLAKE.
GEORGE H. LYMAN.	S. CABOT.

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### MEDICAL NOTES.

— We learn from our English exchanges that Sir William Fergusson, whose death we have already noticed, was born on March 20, 1808, at the village of Preston Pans, in East Lothian, Scotland. His father wished him to enter the medical profession, but he himself preferred to study law. He finally determined to join the ranks of the medical profession. Accordingly, at the age of seventeen, he entered the medical faculty of the Edinburgh University, and at the same time became a pupil of the celebrated Robert Knox, who had then the reputation of being the foremost teacher of anatomy in the kingdom. He became a licentiate of the Edinburgh College of Surgeons at the age of twenty, and a year later obtained the fellowship of the same corporation. Shortly after this he began to give systematic lectures on operative surgery, and between the years 1831 and 1840 he had a class of five hundred students. His general attainments in surgery were so great that on the removal of Robert Liston to London, in 1835, young Fergusson divided the surgical supremacy of Edinburgh with Syme. In 1833 he married Miss Helen Hamilton, a lady possessed of considerable personal accomplishments and a large fortune. In 1840 he was elected to the surgeonery of the New King's College Hospital, and came to London. It was some time before his professional income became a large one, but between 1840 and 1850 the hand of death was a busy one, Astley Cooper, Liston, Key, and others passing away. On the death of the last named he was appointed surgeon-in-ordinary to

H. R. H. the Prince Consort. The honors he received later on were those of surgeon-extraordinary to the Queen in 1855, a baronetcy in 1866, and the sergeant-surgeoncy to the Queen in 1867. In connection with the Royal College of Surgeons Fergusson held the post of professor of human anatomy and surgery in 1863. Having served for some time on the Board of Examiners, he was elected president in 1870, and delivered the Hunterian oration in 1871. He also held the post of president of the British Medical Association during the year 1874. In the later years of his life his income rose as high as £12,000 a year. He enjoyed perfect health until the year 1874, but for the last two years he has been a victim to Bright's disease. His great reputation was chiefly due to his ability as an operating surgeon. He was a strong advocate of conservative surgery. The treatment of harelip and cleft palate were matters to which he gave much of his time, as is well known in the country. He was a skillful operator for stone, and devised several improvements in the lithotrite. His chief literary work was his *System of Practical Surgery*.

— Professor Maas, of Breslau, has been elected to fill the chair of Professor Czerny, Freiburg, the latter having gone to Heidelberg as successor of the late Professor Simon.

— The *Medical Times and Gazette* of January 13, 1877, calls attention to the publication by Professor Abelin, of Stockholm, of some startling results obtained by him in the treatment of various diseases of children by salicylic acid. The acid was given as an internal antiseptic on a large scale in cases of diarrhoea with offensive stools. It did not affect the disease favorably, and it was found to be inferior to other remedies in modifying the offensive odor of the discharges. As an antipyretic it produced a definite effect in many cases, but when given in doses large enough to produce a lowering of temperature from 2° to 4°, it was badly tolerated and produced alarming symptoms. In doses of 0.8 to 1 gramme (12½ to 15½ grains), it acted in an infant at the breast as a violent poison. It has a very irritant action upon the mucous membranes of the mouth and pharynx. It causes a lowering of the temperature of more than 5° Fahr., a considerable amount of collapse, irregular respiration, altered skin functions, and a strong fluxion of blood to certain viscera. Professor Abelin concludes that in young children the use of salicylic acid must be very much restricted. In a dose of twelve to fifteen grains it acts as a corrosive poison; in smaller quantities it lowers temperature without acting beneficially on the course and symptoms of the malady.

We think that physicians in this country would hesitate to give such large doses of salicylic acid to infants.

— The physicians of Breslau have petitioned the cultus-minister of the German empire to raise the whole medical tax, and when this is impossible to offer a new and more satisfactory budget. The General Society of Physicians of Thüringen have also taken the odious tax into consideration.

— Miss Fletcher, of Burlington, Vermont, has recently given \$75,000 for the building of a hospital, and \$100,000 for the endowment of the same. The hospital will be the first institution of the kind in the State, and will give an opportunity to students in the medical department of the University of Vermont for clinical study.

— According to the *Lyon Medical* a woman living in Paris has just given birth to a triplet, — her twenty-second, twenty-third, and twenty-fourth children. In the nine years of her married life she has given birth to twenty-four children, all born as triplets, and perfectly healthy; moreover, the children are all girls.

— From returns received during the year 1876, the registrar-general of London has calculated that the deaths from small-pox in that city among vaccinated children are 9 in 317,081; while the deaths are 116 in 31,360 children unprotected by vaccination.

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## BOSTON CITY HOSPITAL.

MEDICAL CASES OF DR. J. G. BLAKE.

REPORTED BY J. B. FOLEY.

CASE I. *Intermittent Fever; Abscess of Back from Necrosis of Rib; Death.* — James F., longshoreman, widower, aged forty-three. Admitted to hospital January 19th. Always in good health until nine years ago, when he contracted intermittent fever while in the West Indies, and has had attacks at intervals ever since. Eight days before entrance he was suddenly seized with a chill followed by fever. Since then a chill has recurred every day at twelve o'clock. No history of any blow or injury of any part of body. Pulse 96; temperature 98.8° F. Ordered ten grains of quinia to be given six hours before expected chill. From the commencement of the use of quinia, which was continued for five days, the patient had no return of the chills, the appetite was good, and he slept well, until January 30th, when he complained on the morning visit of pain and discomfort in the back.

On examination a large fluctuating tumor was found extending from the lumbar vertebræ to the spine of the scapula on the left side of the spine, about three inches in breadth. On the following day eight ounces of pus were removed by the aspirator, giving great relief. During the next two days the appetite improved. The tumor then began to enlarge again, and the appetite failed. Pulse 72; temperature 100.2° F. Ordered two grains of quinia in solution, before meals.

From this time the appetite constantly decreased, although alcoholic stimulants were used. On February 3d, the scrotum becoming somewhat œdematous, an examination of the urine gave the following result: color, pale; reaction, acid; specific gravity, 1012; urea diminished; albumen, two per cent. The sediment contained pus, blood, granular and hyaline casts. On the 4th of February there was a chill. Quinia in ten-grain doses was again used with success.

February 6th, removed three ounces of pus from the tumor by aspiration. From this time the patient failed constantly until February 14th, when death occurred.

*Autopsy*, twenty-four hours after death. Pericardium contained two ounces of fluid, and a thin layer of recent lymph was found on the posterior portion of the parietal layer. Posterior surface of heart was covered with soft, recent,

stringy lymph; anterior surface normal. Otherwise the heart was in a normal condition. About eight ounces of fluid were found in left pleural cavity, and both pleural surfaces were covered by a thin layer of recent lymph. No rib on this side was laid bare, nor could any communication be found between the abscess and pleura. Right lung thoroughly adherent by old strong adhesions. Lungs on section were somewhat oedematous, and the lower lobe of left lung was hepatized. Spleen enlarged and bright pink; weight, twelve ounces. Kidneys: weight of left, nine ounces; of right, ten and one half ounces; cortical substance swollen and mottled gray; tubules and Malpighian corpuscles indistinct; the capsule carried with it the entire surface of the organ. Bladder contracted and thickened.

Lying near but not connecting with the spines of the vertebræ, on the left side of the spine, an abscess was found beneath the fascia, and extending from the inferior angle of the scapula to the crest of the ilium. Lying parallel to and connecting with it was another shorter cavity farther from the median line. Beneath this latter cavity the tubercle of the eleventh rib was found denuded over a space one half an inch in diameter, and the bone was slightly eroded. Around this point the periosteum was loosened for a considerable distance. The head was not examined.

CASE II. *Ascites; Cirrhosis of Liver; Hæmatemesis; Ulcers of Stomach.*—Francis C., stone-cutter, married, aged thirty-one, entered the hospital January 29th. General health always good until three weeks before, when the abdomen began to enlarge, and on entrance was greatly distended. Conjunctivæ were slightly yellow. Appetite fair. Bowels very much constipated and urine scanty. Ordered on entrance,

R̄ Pulv. jalap. comp.	gr. xl.
Elaterii	gr. $\frac{1}{6}$ . M.
R̄ Infus. scoparii	Oj. daily.

As constipation still persisted, the above powder causing one dejection only, it was given every evening. Stools not becoming liquid, on February 2d

R̄ Pulv. jalap. comp.	3i.
Elaterii	gr. $\frac{1}{4}$ . M.

was ordered every evening. On the following day, as the desired effect was not produced, all medicine was omitted. Apparently scoparius did not increase the amount of urine. Capsules of copaiba and spirits of juniper with nitre were ordered.

Up to that time the urine amounted to ten ounces in twenty-four hours. On examination the color was dark; reaction, acid; specific gravity, 1032; urea, increased; albumen, absent; sugar, absent; bile-pigment, present. From this time the urine increased to twenty-two ounces in twenty-four hours.

On February 6th hæmatemesis suddenly occurred early in the day, and was controlled by the use of ice. About four hours afterwards blood poured in large amount from the mouth and nose, and death occurred.

*Autopsy*, twenty-four hours after death. In the peritoneum there were three hundred and twelve ounces of yellow serum. Lungs and heart normal. Liver extremely cirrhotic and contracted; weight, two and one half pounds; dark purple externally, and internally dark red; very uneven upon surface, hard and tough from extremely abundant connective tissue. The stomach

contained blood, and was reddened in spots, the remainder of the surface having a dull leaden hue; upon the mucous membrane, at the cardiac portion, a group of eight small, round ulcers, extending through the internal layer only, was found. Several single minute ulcers were scattered over other parts. The kidneys were enlarged, dark, and congested; weight, twelve ounces.

CASE III. *Rheumatic Pericarditis preceding Affection of the Joints.* — Charles H., teamster, married, aged thirty-three, entered the hospital February 8th with the following history: He had been treated at the hospital seven months before for acute rheumatism. Records state that "no cardiac symptoms were noticed." He had a chill six days previous to entrance, followed by nausea and vomiting, with pain in the region of the heart, which rapidly became intense. Cough also began at this time, with muco-purulent expectoration.

On examination of the chest a loud friction sound was heard, over the base of the heart especially, but extending over the entire cardiac region. The area of cardiac dullness was increased. The breathing was hurried and distressed. Six leeches were applied on the left of the sternum, over the costal cartilages in the præcordial region. Fifteen drops of the deodorized tincture of opium in half an ounce of brandy were ordered every four hours.

On the following day the rough friction sound was heard over the entire cardiac area, and appeared louder than before. The heart tones seemed roughened, but the friction sound masked murmurs if any were present. The skin was congested and slightly cyanotic, and the patient somewhat delirious. Opium was omitted, and sinapisms were applied over the entire chest, front and back, followed by tincture of iodine over the cardiac region. Twenty drops of the tincture of hyoscyamus were to be given if there was pain. Nervous symptoms were controlled by bromide of potassium in thirty-grain doses. On the following day great improvement was noticed. The sinapisms were re-applied and followed by a light jacket-poultice. A few subcrepitant râles were noticed over the base of the right lung. Carbonate of ammonia in three-grain doses was ordered thrice daily.

On February 13th, although respiration was still hurried, the friction sound was much diminished, and the patient slept during the night tolerably well.

Rheumatic pains appeared on February 15th in the hands and joints of the fingers, which were swollen and tender. Ten grains of salicylic acid every two hours were ordered. The salicylic acid was omitted after eighty grains had been taken, as it caused gastric irritation. During its use the rheumatic pains disappeared.

Up to the present time there has been constant improvement. All pain has disappeared and the friction sound is rapidly growing less. As it diminishes, a well-marked mitral murmur is easily distinguished. During the attack the pulse has been about 104 and the temperature 102° F. This case is one of unusual interest, as the alarmingly acute pericardial affection preceded that of the joints, which has been so slight that it seems as if almost the entire force of the disease had been spent upon the heart. Although pericardial inflammation is not uncommon during rheumatism, yet from the observations of Bauer, Latham, Roberts, Flint, and others, it rarely precedes the articular affection.

## THE METRIC SYSTEM.

MESSRS. EDITORS, — The note from Dr. Derby in your number of February 15th prompts me to speak, in spite of the authority of the French Pharmacopœia, of the desirability of dispensing liquids in ordinary prescriptions by measure rather than by weight. The reasons are, much greater convenience for all parties concerned, and accuracy entirely sufficient for all practical purposes.

A medical prescription is not, and is not intended to be, a chemically exact solution for use by a skilled manipulator. It is intended simply to secure the administration of an approximately exact quantity of some more or less active ingredient by the means usually at the command of persons not specially instructed. If pills or powders are used, the weighing is already done, or the patient is trusted to estimate for himself the proper quantity (as in the case of compound liquorice powder, or pepsin, where no harm is done by a trifling inaccuracy). But liquids have been and must be administered by volume, however they may be prescribed. Patients certainly could not be expected to keep on hand scales of the proper construction for weighing liquids, even if they knew how to use them, and consequently there must be, if weights exclusively are used, a reduction of weights to measure at some stage of progress of the prescription from the physician to the patient, necessitating in the case of liquids heavier or lighter than water a tedious calculation of specific gravity. If we are to be absolutely correct, the temperature must be taken into account also.

If, however, the vehicle or diluent or more bulky ingredients of the mixture are prescribed by volume, based on the average capacity of the teaspoon and tablespoon, the two domestic measures which will probably hold their own in spite of the metric system, the active ingredient is at once divided into the requisite number of doses. These two measures adapt themselves quite as closely to the metric system as to the present one, the teaspoon being much more nearly five c.c. than 3i, as ordinarily reckoned, and the tablespoon twenty c.c.

The glasses graduated to cubic centimetres are *now* much more exact than the average graduate, although there is no reason why careless construction and marking by guess-work should not be employed in the manufacture of the one as well as of the other.

Measurement by volume is accurate enough for quantitative analysis, and this method of estimating substances in solution is constantly being extended by the invention of new reactions on account of the much greater rapidity and ease with which the processes can be carried out.

The adoption of weight alone in the compounding of prescriptions would be in reality a step backward, and if associated with the metric system, with which it has no necessary connection, in medicine at least, would go far, it seems to me, in preventing a very desirable reform.

I am yours very truly,

E. T. R.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEBRUARY 24, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	447	21.58	27.46
Philadelphia	850,856	292	17.85	22.88
Brooklyn .	527,830	190	18.72	24.31
Chicago . .	420,000	146	18.08	20.41
Boston . .	363,940	121	17.29	23.39
Providence	103,000	26	13.12	18.34
Worcester .	52,977	16	15.71	22.00
Lowell . .	53,678	24	23.25	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370			22.04
Lawrence .	37,626			23.32
Lynn . .	33,524	14	20.49	21.37
Springfield.	32,976	4	6.31	19.69
Salem . .	26,739	15	29.17	23.57

NORFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held in Bradley's Building, corner of Dudley and Warren streets, Roxbury, on Tuesday, March 13th, at eleven o'clock. Papers, communications, etc. : —

1. Dr. S. S. Gifford. Cases of Death produced by Vaccination with Animal Virus, with Remarks.

2. Dr. C. E. Wing. Further Observations upon the Use of Uterine Supporters.

3. Dr. H. A. Martin. Case of Fibroid of the Uterus ; Operation.

4. Dr. H. P. Bowditch. Vital Statistics relating to Schools.

Lunch at 1.45 P. M.

Members of other district Societies are cordially invited to be present.

ARTHUR H. NICHOLS, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Reports of the Trustees and Superintendent of the Butler Hospital for the Insane, presented to the Corporation at their Annual Meeting, January 24, 1877. Providence. 1877. Pp. 43.

Medical Libraries. An Address delivered before the New York Academy of Medicine, January 18, 1877, on taking the Chair as President a Second Term. By Samuel S. Purple, M. D. New York : Printed for the Academy. 1877. Pp. 26.

Diagnose und Therapie der Krankheiten des Menschen mit zugrundelegung der Lehren und Recepturen der ersten medicinisch-chirurgischen Autoritäten, nebst einem Anhang über Balneologie. Von Dr. Bernard Kraus, chef Redacteur der Allgemeinen Wiener medicinischen Zeitung. Wien. 1877. Verlag von Moritz Perles. (For sale by E. Steiger, 22 Frankfort Street, New York.)

Mothers and Daughters. Practical Studies for the Conservation of the Health of Girls. By Zullie Suzzara Verdi, A. M., M. D., President of the Board of Health of Washington, D. C. New York : J. B. Ford & Co. 1877. (For sale by Lockwood, Brooks, & Co.)

Second Annual Report of the Board of Health of the State of Georgia, 1876. Atlanta. 1877.

Claims of the Sick Poor. Paper read before the Middlesex North District Medical Society, January 31, 1877. By Nathan Allen, M. D. Lowell. 1877.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVI.—THURSDAY, MARCH 15, 1877.—NO. 11.

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## A CASE OF HYDROPHOBIA.

BY C. L. EDWARDS, M. D., HYDE PARK.

MISS A. B. was bitten last August, between the fore and middle fingers of her right hand, by a small black-and-tan terrier dog. The injury was so slight that she did not send for medical aid, but sucked the wound, after which she applied Friar's balsam and pork rind. It healed rapidly and she thought nothing more about it; the dog was killed to satisfy popular superstition, but was not supposed to be rabid. On February 14, 1877, while washing the tea things in warm water, she suddenly felt a "sharp, stinging pain" at the seat of injury, which during the evening and night extended up the arm to the shoulder. The next morning there was great difficulty in swallowing and a feeling of constriction in the neck and upper part of the chest. She being then at Norwood sent for Dr. Fogg, who immediately recognized the disease and advised removal to her home in Hyde Park, where she arrived at four P. M. the same day. I saw her at five P. M. She was then on a lounge, her tongue clean, skin cool, pulse 95 and hard. There was nothing unusual about her appearance. I noticed that when answering questions she spoke during the act of inspiration. Otherwise she was calm and tranquil, but on offering her some water from a teaspoon the true symptoms presented themselves; at sight of it severe contraction of the muscles of the throat occurred, accompanied by a sort of spasmodic sobbing, which as the spoon approached her lips was fearfully increased. She tried bravely to take the water, but, with the exception of a few drops after great exertion, it was impossible. At my suggestion she went to bed; I gave her one sixth of a grain of sulphate of morphine subcutaneously, ordered hot bricks to her feet, and injections of beef tea and brandy into the rectum *pro re natâ*; perfect quiet was enjoined.

At three o'clock the next morning I was called, the messenger telling me that the poor girl was suffering terribly. I found her on her back, the hands clutching at the throat and chest, with severe spasms of muscular contraction; the pulse was 120; the skin very hot and moist; she had passed urine and retained two injections of beef tea

and brandy, which had been given as ordered. A quarter of a grain of sulphate of morphine injected into the arm gave her comparative ease, but no sleep. I went home at six A. M. Accompanied by Dr. W. S. Everett, of Hyde Park, I saw her at ten A. M.; she was tolerably quiet when all the surroundings were still, but the opening of a door or the rustling of a dress would immediately bring on the spasms, and the attempt at swallowing was so painful that we thought it best to abandon it altogether. Her only complaint was that her head was dizzy and she felt "so, so tired;" pulse 120.

I saw her at one P. M., in consultation with Dr. C. C. Holmes, of Milton. The symptoms were rather more aggravated. She was ordered tincture of aconite, chloroform and alcohol to spine, and morphine sulphate one sixth grain, with chloral hydrate grs. v. subcutaneously as occasion required. During the afternoon she gradually grew worse, her urine passed involuntarily, and the throat got very dry and parched; she would make violent unsuccessful efforts to vomit, coughing frequently and spitting out a thick bloody mucus, which she would take in her fingers and pull from her mouth, not being able to permit even the approach of a handkerchief to her face. "Water," was now her cry, "give me water," and so eager was she to relieve the dryness of her throat, that some water would actually be swallowed before she seemed to be aware of what she had done, and then the spasmodic choking would come on more severely.

During the night following, she had short periods of comparative ease, but the end seemed surely approaching. When the spasms now occurred they became more general, the body and lower extremities being terribly convulsed, so much so that it required half a grain of morphine once an hour for three successive hours to afford her any relief, and that was but little. The pulse became intermittent, ranging from 150 to 160. For two hours previous to death, which took place at 9.30 A. M., she was almost free from spasms, and she talked glibly of things which happened a year or two before, going through minutely the history of her dog bite. A little after nine A. M. she was seized with a severe spasm, and died asphyxiated in less than half an hour.

There were no attempts made at any time during her sickness to bite or to bark like a dog, but there was a very harsh dry cough which I can easily imagine that the ignorant might have conjured into a bark. It was just sixty-two hours from the time she first felt the pain in her hand till death ensued.

## A CASE OF HYDROPHOBIA.

BY HENRY H. SMITH, M. D., DUBLIN, N. H.

CHARLES W. WHITAKER, aged ten years, of nervo-sanguine temperament, not as large as the average of boys at that age, was bitten by a dog of the shepherd breed on the afternoon of the 25th of November, 1876. The dog was not thought to be mad at that time, but subsequently proved to be so. I was not called to see the boy until the next day, when it was found that he had been bitten in several places, the largest wound being on the head behind the right ear and about two inches in length. So much time having elapsed, I thought it of no use to canterize the wounds, which healed kindly under a dressing of simple cerate.

On Tuesday, January 30, 1877, the boy began to complain of pain in his head. He said it started behind his right ear, went down the neck and then down the back; this pain became very severe, and towards night he spoke of being cold, and his parents said "he had the shakes;" he was also sick at his stomach, vomited several times in the night, was very restless, and did not sleep; he also vomited several times the next forenoon. About two o'clock P. M. he called for water, which was given him, and he drank nearly a tumblerful, but very soon threw it up; about four o'clock P. M. he again asked for water; it was brought him, and on putting the glass to his lips he was seized with a spasm, and as soon as he could speak he said, "I can't drink it, I can't drink it; it takes my breath away." This, of course alarmed the parents, and I was called that evening. I found the patient sitting quietly in his aunt's lap, but on being spoken to he looked up with a very peculiar, wild, and distressed countenance; the face was flushed, the skin hot and dry, the pulse 110; he said he was not sick at his stomach then, and answered all questions correctly. I noticed while sitting by him, that every three to five minutes he would take a long, full inspiration, and at short intervals between the inspirations he would make a noise like a sob, something like a child that has been crying. I asked him if he did not want some drink; he said yes, but that he did not want water for he could not drink it. I asked, "Why not?" He said, "It takes my breath away." I then asked him if he could drink some sage tea; he said yes; some tea was poured into a saucer and I handed it to him; he grasped it with both hands and carried it to his mouth; but the instant the saucer touched his lips he took a short inspiration, just as a child would that had some cold water dashed upon its face, and the muscles of the throat and jaws seemed to be strongly contracted, which was found to be the case on trying the same experiment again. As soon as he could speak, he exclaimed, "Oh! I can't drink it," and when asked why not, his reply was the same as

before, and it required considerable coaxing, to induce him to attempt to drink.

I gave him morphine in a little sauce, which he swallowed, but with a convulsive effort; in about half an hour he went to sleep and slept about the same length of time; during his sleep he ground his teeth, had starts and general twitchings of the muscles. Morphia was administered at frequent intervals, but he slept very little the rest of the night, the convulsive movements gradually increasing.

Thursday morning, February 1st, he began to be delirious, the delirium occurring at intervals and with the spasm or convulsion. After a convulsion he asked, "Why do they put me up in the sky?" Once he asked, "What does the doctor give me those cannon-balls for? I can't swallow them." He said, "Father, I am strong. I can lift as much as you and Mr. B. and Mr. C.," naming some of the neighbors. I ordered his attendants to use no more force than was necessary to prevent injury to himself and others; consequently, when not in a convulsion he was constantly on the move, getting up and sitting down, going from one room to another. As the disease progressed he grew weak, and when walking would stagger like a drunken man. The sobbing continued, and when in a convulsion he would draw in his breath so forcibly that a noise was made which a strong imagination might construe into a bark like that of a dog. I compared it to the sound which I have frequently heard in a croupy child. He attempted to bite his father once. There was an excessive flow of thickish, tough saliva which he was constantly spitting out. If asked why he spit so much his answer was, "I can't swallow it." There was no particular change in the symptoms Thursday night, excepting towards morning, when he grew weak rapidly, and died on Friday morning, February 2d. From the first to the last of the disease the patient refused nourishment in any form.

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### A CASE OF TETANUS.

BY J. F. DYER, M. D., GLOUCESTER,

*Late Surgeon-in-Chief of Division in the Army of the Potomac.*

READING in the JOURNAL the report of a case of tetanus under the care of Dr. Charles B. Porter in the Massachusetts General Hospital, I was reminded of one which occurred in my practice in 1874, some notes of which I have preserved.

On the 1st of October, 1874, I was called to see F. B., aged eleven, who ten days previously had received a wound of the right knee by falling on a stone. The wound was then nearly healed, a small scab adhering. There had been no suppuration. On inquiry, I found that the patient had gone barefoot on the wet ground, paying no attention

to the injury. Three or four days after, he complained of soreness of the throat and "stiffness of the jaws." This stiffness of the jaws increased, but not enough to excite serious apprehension until the 1st of October, ten days after the injury. His condition was then as follows: pulse 70; skin cool; muscles of the body, neck, and face rigid; head thrown back; opisthotonos complete. The teeth allowed the edge of a tea-spoon to be inserted, and deglutition was not impaired. I gave an opiate, and as soon as chloral hydrate could be obtained ten grains were given every half hour until the muscular rigidity was relieved. With little variation this treatment was pursued for nearly three weeks, the medicine being administered only when necessary, and always with the effect of relieving the muscular rigidity and allowing the patient to open his mouth sufficiently to take nourishment. He took liquid food principally, sometimes two quarts of milk in twenty-four hours, but also some solid food.

On the 11th I found him suffering extremely. His medicine was exhausted, and being some distance from the druggist's a supply could not be obtained immediately. For two hours he had been completely rigid, and was in danger of suffocation. I found him with an attendant holding each hand, the face purple, and asphyxia fast becoming complete. I succeeded in administering about thirty grains of chloral through a vacant space where some teeth were wanting, and in precisely seven minutes the spasm was relaxed, and he spoke freely, charging us not to allow him to "get out of medicine again," and in ten minutes he was eating grapes. Thus every indication seemed to be answered, and time was gained. The appetite was good, the bowels were in good condition, and the urine normal. The pulse remained as before, and no untoward symptom appeared until, on the 18th, I found him suffering from shortness of breath and pain, and on examination found the right lung congested and the usual symptoms of pneumonia present. His pulse became feeble and rapid, and death took place on the 20th.

As before stated, chloral was the agent most depended on, though stimulants and baths were occasionally used. Since this treatment seemed to promise better results than any other, and was further sustained by the publication of cases successfully treated in the same manner in France at about that time, I felt encouraged to believe that my patient would recover. The pneumonia was not, I think, a consequence of the disease; at that time it was quite prevalent throughout the country and neighborhood. Though unsuccessful, I think this treatment promises better results than any other. In my experience in the field hospitals during the rebellion, the few cases of recovery were probably due to the free use of chloroform and stimulants. This was before the discovery of chloral, with which I think we should have met with more success. But it is only by the report of unsuccessful as well as successful cases that we can arrive at definite conclusions.

## THE JURISPRUDENCE OF INSANITY IN NEW YORK.

BY CHARLES F. FOLSOM, M. D.

A CASE of some interest has recently been decided in New York,<sup>1</sup> which has so important a bearing on many questions of more than local interest, especially as it is considered to establish a precedent, that it seems worth while to consider it at some length.

Mrs. N. was admitted as a patient into one of the leading insane asylums in New York on January 22, 1874, suffering from acute puerperal mania, and with the delusion that to partake of food would jeopardize the lives of her children; a condition which necessitated artificial feeding. About a year after her removal from the asylum she complained to her husband of injuries inflicted upon her "while being fed by her attendants forcibly and against her will." An examination of her throat revealed grave disfigurement, which was mainly due to adhesions between the right lateral margin of the velum palati and the uvula, which were plainly traceable to previous extensive laceration.

Passing over a display in the trial of a judicial fairness, which could not exist where any one individual (in this case the commissioner of lunacy) was the sole arbiter, it is sufficient to say that the defendants acknowledge the facts complained of by Mrs. N., saying that it was necessary to feed her by force; that the person charged with that office was an attendant by the name of Jane —; that said person was skillful, trustworthy, and experienced, and that the injury to the throat was accidental and consequent upon the resistance offered by the patient.

Instead of finding that the officers of the asylum had been derelict in their duties, the commissioner merely announced his conclusions in the shape of suggestions, without giving them the usual force of commands. He exonerated the defendants from all blame, and charged the whole fault upon the attendant, who perhaps did her best in carrying out her instructions, for not reporting the facts of the injury [if she were cognizant of them] to the physicians. The commissioner finds some fault with the class of persons who are attendants in asylums, think that more intelligence and education are needed in their positions, and gravely recommends that there should be a distinct, authoritative supervision of the attendants by an officer appointed for that purpose; but the editor of the *Medical Record* says that, under the present system of asylum management, there does not seem to be much hope for a change in this respect.

The operation of artificially feeding an excited, deluded, struggling patient is one of such difficulty that it is always attended with some risk,

<sup>1</sup> The American Journal of Insanity, January, 1877; The Medical Record, New York, February 3, 1877.

and occasionally with fatal result, under the most dexterous hands and by the use of the best method possible, the stomach tube (nutrient enemata not being always practicable without the voluntary coöperation of the patient). It should never be undertaken except in case of absolute necessity, then only by thoroughly competent persons, and, of course, never by attendants. Prying the mouth open and forcing food to the throat by means of a strong spoon, as was done in this case, neither physician nor attendant is justified in attempting. If proper method and proper care are used by competent persons, there can be no blame for an accident which may happen; but that this delicate work should be intrusted to attendants, whom the commissioner finds so incompetent for their positions as to require a special officer to supervise them, and that, too, in an asylum where a specially appointed commission only a few years ago found short-comings, which they excused on the ground of the absence of the superintendent in Europe and the consequent overwork of the remaining officers, is another of the illustrations which we are constantly having of the failure of corporate bodies to learn by experience. That our asylum superintendents are men of high character, and that our state and corporate asylums are, in many respects, well arranged, is not questioned; but, if they are to be kept up to a high standard, and if the community are to have full confidence in them, everything in their management should be as open as possible. If the attendants need a special supervising board, what is the *raison d'être* of the medical officers? If such attendants, acknowledged to be unsatisfactory, perform difficult and dangerous operations which would not be allowed in our best New England asylums, and, I think, not in any of them, what else may they not do, and what confidence can physicians or the public have in such institutions? Can we expect to have good attendants if they are to be blamed before the public for the faults of their superiors or for a bad system?

That there is some difficulty in getting thoroughly competent assistants and attendants in our asylums no one will dispute; that more is not done in that direction is very largely the direct fault of the superintendents and directors or responsible agents in asylums for not demanding or supplying more; and the medical schools must come in for their share of the blame in sending out their graduates ignorant of a class of diseases affecting one of every several hundred persons, thereby adding to the general disregard of the matter. But this case in New York shows, for that State, at least, that there is a more serious fault, which is probably quite general over the whole country, namely, that physicians and the public know too little of asylums, know too little of the general treatment of their patients and friends who are committed to them; and, finally, it shows the thoroughly unsatisfactory character of the present system of inspection of asylums and of supervision of the insane.

The following sentence, although soberly written, seems to convey a bit of satire : " In the light of an assurance to the public that cases of the sort will always be investigated, that any existing errors of management, either as those of omission or of commission will be promptly corrected, it is well that the examination was made necessary."

Some American superintendents have complained of late of the sensitiveness of the public in regard to asylums for the insane and of the want of confidence in them.

It has not been an agreeable duty to call attention to these matters ; but it has seemed to me important to place on record the fact that the practice in New York, stamped as it is with the approval (tacit, if not otherwise) of the commissioner of lunacy, is not the practice in American asylums generally, and that the criticisms which have recently been made on some of them do not apply to all.

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## RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D.

*Ziemssen's Treatment of Gastritis and Gastric Ulcer.* — Dr. Andrew reports<sup>1</sup> five cases in which he pursued this treatment at St. Bartholomew's Hospital. The theory of the treatment consists in neutralizing the acid fermentation of the contents of the stomach, and also in causing their daily evacuation through the pyloric orifice. Both of these indications are met by the administration of warm Carlsbad water every morning while the patient is fasting. When Carlsbad salts are employed, one and a half drachms (23½ grammes) in three quarters of a pint (355½ cub. cent.) of warm water are given, the whole being administered in three doses, commencing one hour before breakfast. The diet forms an important part of the treatment ; this consists of milk, beef tea, and eggs, and when the stomachal digestion appears to be improved the liquid diet is replaced with more solid food, as fish, etc. In Dr. Andrew's cases, brandy was also given when indicated. As soon as the improvement became established he prescribed a ferruginous tonic preparation. The recovery in one case in which a gastric ulcer had existed for eight years, though slow, was permanent. The other cases improved rapidly and thoroughly recovered. Obstinate constipation, which was a constant symptom, required no special treatment, but disappeared as the patients improved. The advocates for this treatment claim that the ingestion of warm Carlsbad water incites a peristaltic contraction of the stomach, produces a consequent evacuation of its contents, and thus prevents the acid fermentation of food and vom-

<sup>1</sup> Medical Times and Gazette, September 2, 1876.



iting of sarcinae ventriculi, this latter being a constant phenomenon of gastritis and gastric ulcer.

*The Use of Sulphur and Ozonic Ether in Scarlatina.* — Mr. Pigeon<sup>1</sup> presents a method of using sulphur in the treatment of scarlet fever, which he claims to have been very successful. He prescribes this method in the following words: —

“Thoroughly anoint the patient twice daily with sulphur ointment. Give five to ten grains (0.323 to 0.647 gramme) in a little jam three times a day. Sufficient sulphur must be burnt (on a hot shovel) to fill the room with sulphurous fumes, which, of course, are thoroughly inhaled by the patients.”

Under this mode of treatment each of his cases immediately improved, and it is said that none were over eight days in making a complete recovery. One of his cases treated in this way was in a large school.

Dr. Day, president of the Medical Society of Victoria, was the first (in April, 1873) to use ozonic ether (probably ethereal solution of peroxide of nitrogen) in the treatment of scarlet fever, and has pursued this same treatment ever since. In a letter written by him, dated Geelong, May 12, 1876,<sup>2</sup> he states that this method is gaining favor among a large majority of the medical profession in Australia. Since his report, published in 1875, he has seen a large number of cases and has lost, he thinks, about four. His treatment consists in an external application of the following formula: —

R̄	Ozonic ether	. . . . .	3 iv.
	Pure lard	. . . . .	3 iv.
	Benzoic acid	. . . . .	grs. 40.
	Attar of roses	. . . . .	gtt. iv. M.

Apply over the whole surface of the body three times a day for a fortnight, and twice a day for another week or ten days.

In combination with this outward application, he orders for children one to two teaspoonfuls, or for adults a dessert-spoonful to a table-spoonful, of the following mixture: —

R̄	Ozonic ether	. . . . .	3 ij.
	Pure glycerine	. . . . .	3 iv.
	Citric acid	. . . . .	2j to ij.
	Distilled water	. . . . .	q. s. ad 3 viij. M.

This mixture slowly swallowed, he says, is better than a gargle, improves the throat symptoms, and especially disinfects the exhalations.

Dr. Moffitt writes<sup>3</sup> a letter from Sydney, in which he reports the result of Dr. Day's treatment in ten cases of scarlet fever, two of which were in adults; his patients felt so much relief to the cutaneous irritation that they frequently requested a renewal of the application of the

<sup>1</sup> London Lancet, November 25, 1876.

<sup>2</sup> Medical Examiner, November 2, 1876.

<sup>3</sup> Idem.

ointment. From Dr. Moffitt's observation of this mode of treatment he suggests that the chief advantage lies in the comparative immunity from contagion to the attendants, and believes that the danger of infection is reduced to a minimum. "There has been no second case in any of the houses where this treatment has been fairly used, with one exception, and that was clearly traced to a child who had escaped where this treatment was adopted, and was thought to be safe, going into a neighbor's house where no precautions were taken. She caught the disease and brought it home. She was immediately put under the ozonic-ether treatment and made a good recovery."

Both of the above writers state that scarlet fever has been a great scourge and epidemic in the towns in which they each live, and that they are very much encouraged by the success of the above treatment in stamping out the epidemic.

Unfortunately, we have not at present any data to show what is a fair proportion of deaths to the number of cases in an epidemic of scarlet fever. This disadvantage prevents a proper appreciation of the various and reputed remedies against the terrible scourge of a scarlatinal epidemic. As there is at present no standard specific treatment for this disease, and certainly none but the isolation method, which possesses the advantage of destroying its means of propagation, physicians would be justified in giving to either of the above treatments a fair trial, since neither appears to be injurious even if it be of no value in checking the mortality. The cold bath, wet pack, and excessive use of quinine which have been so generally used of late had not the advantage of innocuousness when first introduced. We must admit that the mortality from scarlet fever has been so variable with different practitioners and in different localities, that the profession has some show of justice in feeling skeptical at the suggestion of a new remedy. It should be remembered that ozonic ether is very inflammable. Dr. Hogg,<sup>1</sup> in Notes on Infantile Diseases, remarks that Dr. Day's ointment costs four shillings per pound; and that "inunction with oils protects the skin when changing, indeed from the very first, and lessens the liability to kidney dropsy so often caused by cold caught during the period of desquamation."

*Sulpho-Carbolate of Sodium in Diphtheria.* — Dr. Anthony<sup>2</sup> has given this drug to the amount of one hundred and twenty grains (7|774 grammes) to a child seven years old. It may be combined with sulphate of quinine, tincture of the muriate of iron, carbonate of ammonia, or given in brandy, whisky, wine, syrup, or any aromatic water. He suggests its mixture with sugar as a very good method of administration to children. His rule is to begin the administration of the rem-

<sup>1</sup> Medical Times and Gazette, September 2, 1876.

<sup>2</sup> Medical and Surgical Reporter, January 13, 1877.

edy as soon as the disease is recognized, and to continue it in increasing doses until its effect on the disease is manifest, then gradually to diminish the dose and increase the intervals between each dose. He observes that four parts of the salt represent one part of carbolic acid, and that in one case the odor of the acid was plainly perceptible in the urine. It is hardly fair, however, to give credit to this agent for causing a cure in any of the eighteen cases reported; one of these (a delicate child three years of age) succumbed to the disease in thirty-six hours from its invasion; if this drug acts by preventing the morbid action of the poison, one would naturally suppose that its antiseptic properties would commence almost immediately after the administration of the remedy. That the successful treatment of the other seventeen cases in which he tried the sulpho-carbolate of sodium was not dependent upon this drug alone can be gathered from the fact that he associated with it the treatment by tonics, by local action upon the false membranes, and by strict attention to the hygienic surroundings of his patients.

*Administration of Salicylic Acid.*—Mr. Erskine<sup>1</sup> states that the inconvenience of giving this drug in powder is due to the evolution of carbonic acid and carbolic acid, thus causing an irritation and difficulty of swallowing. This effect can be avoided by the following mixture:—

Rx Acidi salicylici

Potass. bicarbonat. . . . . ʒj. or 30 grammes.

Aquæ . . . . . ʒj. or 30 grammes. M.

A decomposition in this mixture produces carbonic acid and salicylate of soda. If this view of the action be correct, it would seem advisable to prescribe, *ab initio*, salicylate of soda.

*Topical Action of Remedies.*—Mr. Gasquet<sup>2</sup> in a very excellent and short discourse advises the application to clinical experience of the theoretical knowledge derived from physiological and pathological researches. The neglect of so doing makes the clinician responsible for the tardy progress of therapeutical science. He concludes his paper with the following propositions:—

“1. A remedy applied to the surface of the body may be absorbed, and may then produce certain direct effects upon the *tissues* of the part. Probably the local action of mercury and iodine are examples of this kind of action; perhaps, also, the pustulation of tartar emetic and croton-oil is due to an eliminative irritation of the sudoriparous glands.

“2. Paralysis of the terminal branches of the motor and sensory nerves, and the arrest of secretion by belladonna, may be explained by the direct action upon the nerve fibres of the part.

“3. Hyperæmia, inflammation, and all more complex perversions of nutrition produced at the seat of application by remedies are due to reflex vaso-motor action, usually of the kind at present called inhibitory.

<sup>1</sup> Edinburgh Medical Journal, November, 1876.

<sup>2</sup> Practitioner, January, 1877.

"4. 'Counter-irritation' and all other secondary or distant effects of the local application of remedies are due to reflex vaso-motor action, excited by the primary effect of the application, and propagated by means of the nerves.

"5. In some cases, at least, these secondary effects tend to reproduce in kind the impression produced at the seat of application. According to the commonly received hypothesis of inhibition we should expect this law to apply only to such instances as are mentioned under heading 2, and not to such local results as are due to reflex vaso-motor action."

*On the Relief of Pain by External Application of Chloral Hydrate.* — Dr. Dowse<sup>1</sup> writes: "My practice seems to show that chloral hydrate acts directly upon nerve matter and subdues muscular movements by reflex inhibition of motor centres, or perhaps indirectly by inhibition of vaso-motor centres." Whatever truth there may be in his deduction, he produces evidence of twelve cases in which the external application of this remedy relieved excessive pain. In most of these cases the pain was seated in cancerous or other forms of ulcerated surfaces, but in one the pain was simply neuralgic, pleurodynia, and was uncomplicated with local inflammatory action. Moreover, in some of these cases the internal administration either of opium or chloral did not relieve the pain as efficiently as the local contact of chloral.

Dr. Dowse used the four following solutions of chloral: —

No. 1.	℞ Chloral hydrat.	3 iv. or 15,548 grammes.
	Aquæ . . . . .	Oj. or 4730 cub. cent.
No. 2.	℞ Chloral hydrat.	3 iv. or 15,548 grammes.
	Glycerini . . . . .	3 j. or 29,158 cub. cent.
	Aquæ . . . . .	Oj. or 4730 cub. cent.
No. 3.	℞ Chloral hydrat.	3 iv. or 15,548 grammes.
	Sol. zinc. chlorinat.	3 ss. or 14,76 cub. cent.
	Aquæ . . . . .	Oj. or 4730 cub. cent.
No. 4.	℞ Chloral hydrat.	3 iv. or 15,548 grammes.
	Ferri perchloridi . . . . .	3 ij. or 7,174 grammes.
	Aquæ . . . . .	Oj. or 4730 cub. cent.

In applying these solutions to raw surfaces "folds of lint just the size of the part must be saturated with the solution and brought in close contact with it, then three or four layers of lint wrung out of hot water placed upon them, and over this a piece of oiled silk."

*Scalds and Burns.* — Dr. Riddell<sup>2</sup> has used the following mixture in an aggravated inflammation caused by a scald from boiling water: —

℞ Hydrate of chloral . . . . .	3 iij. or 11,661 grammes.
Carron oil . . . . .	3 vj. or 177,18 cub. cent.

This mixture was applied by means of cotton fitted as a mask to the face, allowing spaces only for the mouth and eyes. Within a minute or two only the sharp, stinging sensation at first experienced was followed

<sup>1</sup> Medical Examiner, October 26, 1876.

<sup>2</sup> Medical and Surgical Reporter, January 5, 1877.

by a rapid diminution of pain. This latter was also associated with drowsiness. The patient rapidly improved.

*Chloral Hydrate a Solvent for Fats.*—In the same journal a writer<sup>1</sup> says that chloral hydrate is a solvent for fats, so much so that solid fat becomes liquefied by contact. “Hence it is not advisable to prescribe, for instance, chloral with lard, simple ointment, or even with simple cerate, in a very large proportion; with oleum theobromæ it forms an unctuous mass, but it is almost an impossibility to make a suppository from this composition.” Equal parts of spermaceti and oleum theobromæ will make a very convenient suppository for ten or twelve grains of chloral. Vaseline, three parts, and paraffine, two parts, make a very good base, but it does not melt as nicely into an unctuous mass as that formed by spermaceti and theobroma oil.

*Congestion of Kidneys caused by Chloral Hydrate.*—Mr. Charles Orton<sup>2</sup> states from his observations of post-mortem appearances in two patients and from experiments on animals who died after large doses of chloral hydrate, “that congestion of the kidney may and almost invariably does follow the use of chloral.”

*Chloral Hydrate in Tetanus.*—Mr. J. H. Salter<sup>3</sup> reports the successful use of this remedy in an aggravated case of traumatic tetanus of two weeks persistence. He administered small doses varying from six grains to ten grains (.386 to .647 gramme) every two or three hours, according to the frequency and violence of the tetanic spasms. A careful review of the case might possibly suggest the suspicion that there are some grounds for supposing a complication with delirium tremens, as “the disease resulted from a wound received during a fit of drunkenness and followed by exposure to unusual cold, in a subject debilitated by habits of intoxication, . . . of inferior intellectual powers.” The value of chloral hydrate in mania a potu is sufficiently well known.

*Treatment of Leucocythæmia by Phosphorus.*—Dr. Gowers, Dr. Greenfield, Dr. Goodhart, and Sir William Jenner each reported to the Clinical Society of London, November 24, 1876,<sup>4</sup> cases of leucocythæmia treated by phosphorus in doses of one thirtieth of a grain (.002 gramme) three times a day. Apparently none of these cases received any decided benefit.

(To be continued.)

<sup>1</sup> L. E. S., page 19.

<sup>2</sup> Edinburgh Medical Journal, November, 1876.

<sup>3</sup> Practitioner, December, 1876.

<sup>4</sup> British Medical Journal, December 2, 1876.

## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

JANUARY 27, 1876. Forty-nine members were present; the president, DR. WILLIAMS, in the chair.

*Herpes Zoster Auricularis*.—DR. C. J. BLAKE reported the following case:—

C. McC., four years of age, came to the Infirmary December 14th, with purulent inflammation of the right middle ear. The lining of the external auditory canal was somewhat swollen, and there was a large perforation of the membrana tympani, through which flowed a muco-purulent discharge. After cleansing the ear the mucous membrane of the tympanic cavity was seen to be red and swollen. There was in addition a post-aural abscess, extending from the level of the upper border of the auricle downward over the mastoid to a point on a level with the meatus, pressing the auricle forward so that it stood nearly at a right angle to the plane of the head. An opening was made at the point of greatest prominence, liberating about an ounce of pus, with relief from the pain, which had been severe for three days, and diminution of the febrile symptoms. Five days later a probe passed inward along the posterior wall of the meatus detected a minute surface of rough bone at the depth of about an inch. The ear was syringed daily with an astringent solution, the wound behind the ear was kept open, and the case progressed favorably until January 6th, when severe lancinating pain occurred in front of the ear, and continued at intervals for two days, being worse at night. On examination, January 8th, I found seven reddish patches, of irregular outline, the color merging into the color of the surrounding skin, occupying a space about two and a half inches long by one inch wide in front of the auricle, the uppermost patch extending upward toward the temple; there were no bullae, but before the disappearance of the reddened patches, which occurred spontaneously within a week, numerous opaque, yellowish spots appeared upon each reddened surface. The patches appeared to the touch to have an indurated base. In addition, the submaxillary gland was somewhat swollen, and there was slight salivation. January 14th, the patch in front of the ear had entirely disappeared, and the skin was smooth and fresh, but there having been a recurrence of pain in the depth of the ear, accompanied by febrile symptoms, and the posterior wall of the canal being somewhat swollen, a free incision was made at the point at which the probe had detected bare bone, with the liberation of a few drops of pus and with relief.

The occurrence of the eruption in front of the ear coincidently with the salivation and enlargement of the submaxillary gland is the principal feature of interest in the case, as the point of irritation may, in all probability, be traced to a perineuritis of the chorda tympani, this view being supported by the anatomical relations of that nerve and by the only similar case of which I have any knowledge, reported by Dr. Guerdner.

DR. JEFFRIES said that he had seen the case, and agreed with Dr. Blake in

regard to the diagnosis. At first sight it might have been taken for eczema, but on more careful examination the blotches were evidently herpes in an aborted condition, the epidermis being raised in hard lumps, as is often seen in other situations. A number of plates which were shown indicated that the locality of the eruption in this case was not on any of the tracts where zoster which is traceable to the trigeminus manifests itself. Dr. Jeffries referred to the fact that double zoster was said not to occur on corresponding portions of both sides of the body, though one of Hebra's plates was exhibited with double zoster of the face.

DR. HUNT said that he thought that even Dr. Jeffries's confirmation of Dr. Blake's diagnosis failed to establish its correctness. No author has described such an affection, for the simple reason that a herpes zoster in this region would fall in the district of herpes zoster collaris, as described by Hebra, Neumann, and others. The symptoms in this case are referred to an inflammation of the chorda tympani, and the chorda tympani may have suffered more or less irritation, but there is nothing to establish even this; the increased salivary secretion, in the absence of all gustatory phenomena, might be referred to other causes. If the chorda tympani were inflamed it would be stretching a point to say that it caused the herpes; if we had a herpes zoster ophthalmicus and an iritis coexisting, we should not think of regarding the affection of the skin as a result of the iritis; we should treat them both as expressions of a neurosis affecting the trigeminus; there is no nerve that bears a relation to the ear like that which the trigeminus bears to the eye, consequently the apparent analogy is far fetched.

Dr. Hunt thought that few of those present would associate the affection in this locality with the trigeminus, and the argument that it is a herpes zoster auricularis for the reason that it was *not* connected with the trigeminus was not in his opinion convincing. It seemed to him that the case was one in which a simple herpes, such as occurs about the ear, happened in conjunction with a purulent catarrh of the middle ear, in which there were some symptoms of irritation of the facialis and more or less pain.

DR. BLAKE remarked that in purulent inflammation of the middle ear changes in taste had been noticed in forty-two out of sixty-seven cases.

*Partial Amputation of Foot.* — DR. J. C. WARREN showed a patient whose left thigh and a portion also of the right foot had been amputated. A boy about nine years old was brought into the hospital, having been run over an hour before in attempting to get on to a train in motion. The thigh was amputated at the junction of the middle and upper thirds. The toes and the integuments which covered the metatarsal bones of the right foot were badly mangled, with the exception of the great toe, the bones and skin of which were uninjured. The injured parts having been removed it was found possible to cover the remainder of the foot with the sound skin, although the flaps were somewhat scanty. The phalanges and metatarsal bones of all the toes except the great toe were thus removed, the latter remaining as an elongated appendage projecting from the tarsus. The wounds had healed rapidly under the "salicylic cotton" of Volkmann, which Dr. Warren had had prepared by Mr. Clough, the hospital apothecary. The case was shown as a specimen of conservative

surgery, illustrating the advantage of the principle "of the least possible sacrifice of parts" as laid down by Bryant, who reports a somewhat similar case, with an illustration, in the practice of Mr. Key. In this case the cuboid and the two external cuneiform bones were also removed. The advantages of such a foot over one amputated by Lisfranc's or Chopart's method is obvious; the leverage remaining normal prevents the contraction of the tendo Achillis and the consequent tendency to pes equinus. In the case reported a certain amount of shock was prevented by refraining from amputating higher up, a gain of some importance in a case of double amputation. Two days after the operation the case had come under the care of Dr. Cabot, and had been treated by him since.

*Rheumatic Fever.* — DR. T. M. ROTCH reported two cases of acute rheumatism, with high temperature and extensive affection of the joints, treated with salicylic acid. The specific effects of the drug in reducing the temperature and controlling the pain were noticed, also the recurrence of the bad symptoms when the acid was omitted.

*Abnormal Fœtus.* — DR. CHADWICK presented a specimen sent by Dr. Leonard, of East Boston, to Dr. Jackson for the museum. A full description will appear elsewhere.

*Ovarian Cyst.* — DR. M. H. RICHARDSON showed a large ovarian cyst with several smaller ones in its walls. The case, with others, will be reported by Dr. Cabot in whose practice it occurred.

*Acute Tubercular Meningitis.* — DR. WEEKS reported a case of this disease in a child three years old, as follows: —

The patient never had a severe illness before and never received a severe injury. She had not been subjected to any debilitating influences. Her parents are as well as the average of parents and show no tendency to tubercular diseases. No record was found of a case of tubercular disease in the family history nearer than the grandmother on the mother's side. The father's family are entirely free from consumptive diseases. The child's illness began about January 1, 1877. At first she complained only of feeling tired, was unusually peevish, and had an indifferent appetite.

About January 7th she began to vomit after taking food, and soon nothing was retained. This stage continued one week. January 14th, Dr. Weeks was first called. The child lay on its mother's lap, with eyes closed and unwilling to be disturbed.

Symptoms: first day, temperature only a little raised; skin dry and harsh; pulse 72 per minute, and irregular in volume and rhythm; respiration slow and sighing; face alternately flushed and pale; conjunctivæ clear; pupils contracted and equal, but responded to light. Auscultation showed only coarse mucous râles at the base behind. The bowels had been moved by remedies.

Second day, the left pupil more dilated, twice the size of the right; conjunctiva injected; convulsive movements of the eyes; slight external strabismus; more fever; pulse and respiration more irregular; less consciousness; not much pain; no vomiting,

Third day, more pain which was paroxysmal; eyes more injected; child very restless and tossing about; seemed to hear and to recognize the parents' voices, but could not see; asked for nothing, and did not desire to be moved.



Fourth day, she fell into a comatose state; temperature considerably increased; varying pulse, still slow; respiration more irregular, intermissions of from five to fifteen seconds occurring several times a minute.

From this date until the 26th of January the decline was gradual, and was marked by no unusual symptoms, but rather by the absence of some that are common. There were no convulsions, no complete paralysis of either limb. By mild aperients the bowels were moved almost daily.

The treatment at first consisted of cold applications, bismuth, ergot, bromides, and aperient solutions. Later, quinine, brandy, and ammonia were given. The nourishment was milk and beef tea.

The autopsy, by Dr. Fitz, showed that the surface of the brain was dry and smooth, the meshes of the pia mater compressed, and the arachnoidal veins injected. The sulci were indistinct. Numerous minute gray tubercles, hardly a line in diameter, were found at the base of the brain, along the fissures of Sylvius, and on the upper and anterior surface of the cerebellum. The ventricles were dilated to a marked degree, and contained a large quantity of clear pale fluid. The ependyma was thickened, and the septum lucidum a pulpy mass. The brain substance in general was not particularly altered.

The bronchial glands were moderately enlarged and cheesy, and on microscopic examination of the liver occasional sub-miliary tubercles were found, not large enough to be evident to the naked eye. The other organs of the body presented no unusual appearances.

DR. JACKSON asked whether the lungs were quite healthy, and remarked that he had seen, in adults but not in children, cases of tubercle in the membranes of the brain without any disease of the lungs or bronchial glands. These cases ran a very different course from ordinary tubercular meningitis.

DR. WEEKS said that apart from the enlargement and cheesy condition of the bronchial glands no disease was observed in the lungs.

DR. ELLIS had not seen a similar case in a child.

DR. JACKSON also thought the duration of the disease unusual.

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## DUIRING ON DISEASES OF THE SKIN.<sup>1</sup>

IN our brief notice of the *Atlas of Skin Diseases* by Dr. Duhring,<sup>2</sup> we stated that a text-book by the same author was about to appear, and we are now pleased to announce its publication. There is always room for another good book, even when the demand has been so generously supplied as in dermatology during the past few years. There remained, however, one want to be supplied, a satisfactory, practical treatise for the practitioner and a text-book for the pupil and teacher, complete in all details and covering the whole field of dermatology. This want no one could appreciate more than the author, as special practitioner and teacher in this branch of medicine, nor is there

<sup>1</sup> *A Practical Treatise on Diseases of the Skin.* By LOUIS A. DUIRING, M. D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia; Author of *Atlas of Skin Diseases*, etc. Philadelphia: J. B. Lippincott & Co. 1877. 8vo. Pp. 618.

<sup>2</sup> JOURNAL, July 13, 1876.

any one better fitted by temperament and thorough acquaintance with the subject to supply it. Other recent writers on dermatology in our language have either treated the individual diseases very unequally, or have occupied much space by the discussion of disputed points and by the expressions of personal opinions, which are entirely out of place in a work intended for the practitioner and student of medicine. These faults, so clear to an author, Dr. Duhring has carefully avoided, aiming only to present the subject in a full, unprejudiced, and practical manner.

The first part of the book is general in character, and is devoted to the consideration of the anatomy of the skin, and of the symptomatology, ætiology, pathology, diagnosis, treatment, prognosis, and classification of its diseases. These important subjects are all set forth at ample length and with good judgment. The classification adopted, we are happy to state, is that of Professor Hebra, but slightly modified, and it is pleasant to record the fact that we may have a new book on dermatology without a new system of classification to add to the present confusion. The chapter on the anatomy of the skin is illuminated by several fresh and clear cuts, which, with some particularly good drawings of the vegetable parasites, are the only illustrations in the volume.

In his treatment of the special diseases the author gives first a brief definition of the affection, then a very full description of its symptoms in all the stages and varieties in very clear language. The ætiology of the disease is then considered, and the pathology is discussed in its relations to the observations of the many recent investigators in this field of research. The matter of differential diagnosis is presented with exceeding care for the benefit of those who have little experience in the recognition of skin diseases. Due attention is also given to prognosis. The treatment forms, perhaps, the most valuable part of the book, for it is given in such full detail, and with such special directions and excellent judgment, that one who studies it with proper care cannot fail to apply these fruits of the author's experience and research successfully in the management of these affections.

But the reader may ask, Are there no faults, no errors, in the book which are worthy of notice? There are many points of secondary importance upon which the author is at variance with some other writers on dermatology, some few points on which we think him wrong in his conclusions, but as we have not space to discuss such matters of difference at proper length, we prefer to leave them all unspecified, and this the more willingly because the book is in general so free from theories and from hasty inferences from insufficient observation. We regard it as the most complete and satisfactory work on dermatology in the English language, and most heartily commend it to the practitioner and the student.

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#### THE URINE IN DISEASE.<sup>1</sup>

THIS is a large chart, about twenty-five by thirty-three inches, containing five columns of printed matter. It is evidently intended to be a condensed

<sup>1</sup> *The Urine in Disease. Rules for Analysis, Pathological Conditions, and their Significance.* By F. M. BLODGETT, M. D. Harv. For Physicians' and Students' Use. James Campbell, Publisher, Boston, Mass.

summary of the rules to be followed in making an analysis of the urine. The first column is devoted to tables. Those which explain the "Composition of Normal Urine" and the "Proportion per Fluid-Ounce of Urinary Constituents" are copied verbatim from Flint's *Examination of Urine*, and those concerning the "Excretion of Urine Solids," and the "Influence of Diet," with the one beginning "Normal urine contains," from Harley's work on *The Urine and its Derangements*. These tables are not credited to the above authors as quotations, and the only reference in the whole chart to authorities on the urine is at the foot of the first column, where it is stated that the "authors consulted" have been "Heller, Thudicum, Beale, Neubauer, J. C. White, Vogel, Harley, Austin Flint, Jr., Roberts, Piffard." It would have been much more accurate had Dr. Blodgett said authors *quoted from* rather than *consulted*, for by far the greater part of the remaining four columns consists of sentences and even whole paragraphs copied verbatim, or nearly so, from the above-mentioned works of Flint and Harley; and in many cases where there is any deviation from the exact language of those authors, the sense is entirely changed, or the copied sentences are so badly connected as to render the whole clause utterly devoid of meaning.

Thus we find under the head of "Sugar" the following: "We have only two forms of diabetes. 1st. That by 'excessive formation.' 2d. That by 'diminished assimilation.' An inordinate thirst and excessive elimination of urine indicates that the disease is already in its second stage; in the first stage there is loss of sugar alone in the urine; in the second there is loss of sugar, with loss of the flesh in the urine." What Harley does say on page 219 is: "It is evident that we may have two perfectly distinct forms of the same disease, one of which might be named *diabetes from excessive formation*; the other *diabetes from defective assimilation*," and on page 220: "An inordinate thirst and excessive elimination of urine is in all cases an indication that the disease is already in its second stage, the first stage being indicated, in those arising from *excessive formation*, by saccharine urine alone, and in those from *defective assimilation* by saccharine urine coupled with loss of flesh."

Again, under the heading "Uræmia" we find in the last three lines: "In ammonæmia, the urine, the breath, and the perspiration, are ammoniacal. Of course catheterization would be easily indicated. But in no case is *ammonæmia*<sup>1</sup> within the reach of instrumental interference." In Harley (pages 58 and 59) we find: "In ammonæmia the urine is ammoniacal when passed. The breath and perspiration are ammoniacal. . . . In the first place, ammonæmia arising, as it generally does, from directly remediable causes, is much more frequently under our control than uræmia. For example, when the ammonæmia is due to the simple retention of urine in the bladder, repeated catheterization is usually followed by a speedy cure. In no case is *uræmia*<sup>2</sup> within the reach of instrumental interference."

Examples similar to the above might be multiplied, although these would render the chart absolutely worthless as a guide to urinary analysis were they the only errors. But there are numerous others, among which may be mentioned the substitution of 2.15 instead of 1.62 in one of Flint's tables; the

<sup>1</sup> Italics are ours.

<sup>2</sup> Italics are ours.

word *ten* instead of *two* in the description of the methods given for the estimation of the amount of sugar and of urea in the urine, both of which descriptions are copied from Harley; the statement that "the best mode of detecting bile in the urine is Pettenkofer's test," etc., etc. The chemical, orthographical, and grammatical errors are too numerous to mention. That portion of the examination of urine which is the most important to the general practitioner, namely, the microscopic examination of the sediment, is not referred to except by six figures representing the appearance of "uric acid," "nitrate of urea," "triple phosphates," "oxalate of lime," "blood, pus, and spermatozoa," and "epithelial cells and tubuli," all of which, with the exception of the second and fourth, are very poor.

In short, this chart is worse than worthless, since, if the rules laid down in it are followed, erroneous conclusions must inevitably be arrived at, and had it not been for this consideration it would not have been deemed worthy of a notice.

E. S. W.

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### THE CITY HOSPITAL.

THE new City Hospital, as it might appropriately be called since the completion of its four new buildings, merits the attention and the approval of the medical profession. Probably most physicians are unaware of the great and radical changes which have taken place there within two years. These changes may be properly classified as follows: (1) sanitary, (2) executive, (3) economic. The first consists not only in the erection and occupancy of admirable new pavilions, but in the thorough reform and remodeling of the old ones. The foul ward is now the sweetest portion of the hospital. Its air supply has been greatly increased, and is conducted directly into the rooms from the external atmosphere. The old medical and surgical wings, formerly insalubrious from defects in drainage and from fault of construction, whereby a low basement was used as a ward, have also been remodeled. The whole system of sewerage has been altered, the sub-cellar cemented, and the basement converted into an open air-chamber for the wards above.

The result of these changes on the sweetness and healthfulness of the air in the wards has been most marked. Here also fresh air has been brought directly into the buildings, from openings in the side walls of the pavilions themselves, instead of being filtered through a long series of heated and ill-ventilated sub-cellars. Of the new buildings, four in number, it can properly be said that they will compare favorably with the best parts of any modern hospital. They are sunny, fresh, light, clean, and healthy, and having been occupied nearly a year their defects, if any existed, have had time enough to become manifest.

The condition of wounds and the general percentage of recovery among the sick has been excellent. Pyæmia is rare; gangrene, which threatened to be epidemic at one time, in the old buildings, has wholly disappeared. Rapid recoveries in the puerperal state, of which a certain number of accidental cases inevitably are present, and a successful case of ovariectomy recently performed, attest the improved sanitary condition of the hospital.

The executive reforms have been equally great. System and method in

administration show marked results. Discipline among employ  s and promotion and probation among the nurses have vastly improved the service of the hospital.

It is gratifying in the present period of commercial depression to know that reforms in economy have also been extensive and successful. We derive the following proofs of this statement from the forthcoming official report of the hospital : —

	1875-6.	1876-7.
Cost of maintaining hospital . . . . .	\$109,205	\$113,000
Income from paying patients . . . . .	\$1277	\$5000
Net annual cost of maintaining hospital . . . . .	\$107,928	\$108,000
Daily average of patients . . . . .	226 $\frac{1}{2}$	270
Number of weeks of board furnished . . . . .	11,883	14,000
Net cost per week of each patient . . . . .	\$9.25	\$7.75
Salaries and labor . . . . .	\$31,938	\$30,800

Compared with last year, the cost of salaries and labor will be diminished about one thousand dollars, and the number of persons employed increased by twelve. At the same time the number of wards has been increased from ten to fifteen, and the number of patients increased twenty per cent. At the old rate of \$ 9.25 for each patient per week (instead of \$7.75 as it is now), the annual cost of maintaining the hospital would have been increased about twenty thousand dollars. Had this saving been effected at the expense of the health or the comfort of the patients we should be the last to commend it. The food, however, is abundant and good, the saving in cost having been effected by wholesale marketing, facilities for keeping, cooking, and distributing food, and the improvements in the executive management of the hospital, already noticed.

These marked improvements have been largely due to the care and devotion of the medical and surgical staff; great credit should also be given to the board of trustees for the success which has attended their efforts to obtain the best buildings, a result to be reached only by a practical mechanical knowledge, which was possessed in a high degree by one of their number.

The care and skill shown in the executive department, together with the excellent hygiene of all the buildings, could be maintained only by a superintendent of the ability of the one which the hospital is so fortunate to have. At such a moment the removal from office of any of those who have done their work so well would seem, to say the least, to be out of place, while the introduction of any element not in harmony with the present government of the hospital, as we fear is contemplated, could not fail to be injurious to its welfare. If kept in the future, as it has been in the past, free from partisanship and from politics, it cannot fail to continue in the first rank of charitable institutions, and to command the respect and pride of all our citizens.

#### ANIMAL BROTH.

AN interesting article on animal broth as an aliment in disease is contributed to the *New York Medical Journal* of February by Dr. J. Horton. It is probable, he says, that no one article of diet has been more relied upon in the

past in cases of great extremity than the one in question. Within the past few years the demand for it by physicians in practice has been so great that large manufactories have been established in several places. One, situated on the Uruguay River, South America, used in the production of this article, during eight months of the year 1873, the flesh of 122,075 cattle, of the value of \$1,650,000. The extract of meat derived from this enormous quantity of flesh was 570,000 pounds. When one contemplates this immense production and remembers that it is only one of several manufactories in the world, and that the product of them all combined does not contain a single pound of what is strictly termed food, we can only wonder that this great waste of time, money, and material still continues.

Were he called upon to assign to animal broths their proper position among the agents we give to sustain a patient where the danger of dissolution lay in asthenia, he should say: first, alcohol; secondly, organic salts; lastly, tea and coffee; for no doubt the physiological action of animal broths is due to the organic alkaloids and acids which they contain (lactic acid, inosinic acid, creatine, creatinine, inosite, etc.), and as their effects on the system are very similar to those of the active principles of tea and coffee (theine and caffeine), from which they differ mainly in strength, it must be concluded that animal broths, beef tea, and extract of meat are more a "vital restorative than a nutritious food." Professor Liebig classes beef tea and coffee under the head of "nervous food," as they are of themselves incapable of supporting nutrition and maintaining life, yet they have temporarily sustaining properties, greater than tea and coffee, but less than alcohol.

The saline-mineral constituents of beef tea are the acid phosphate of potassa, phosphates of magnesia, lime, and soda, chloride of potassium, and a small quantity of chloride of sodium. They do not participate in the chemical changes going on in the body, but serve by their presence to enable those changes to go on which are necessary for the process of nutrition.

His experiments show that half a pint of water to one pound of meat furnishes as much extractive matter as any greater amount; that long boiling does not increase the strength; that from four to six hours' maceration is desirable when time will allow; that being shaken thirty minutes equals eight hours' maceration, which is quite an object where time is valuable.

Where we wish to get some food from the meat, pepsin and hydrochloric acid are important additions, or, when both are not at hand, either may be advantageously used alone. The insoluble fibrinous matter may be carefully dried and powdered in a mortar, and then mixed with the tea; in this way we get the nutritious matter of the meat in a finely divided state, and it will be easily digested. Where the tea is prepared daily, it is more convenient to use one day's meat for the next day's tea; by this means it has time to dry, and is more easily pulverized. When hydrochloric acid is used alone in the preparation of beef tea, and the tea is too acid for the patient, it may be neutralized by the addition of sodic carbonate, thus converting it into sodium chloride.

## MEDICAL NOTES.

— There has been a threatened extermination of the Spitz dog, on the ground of the liability of this animal to convey hydrophobia. A hearing was given to this question at the State House recently, a variety of testimony being offered. Although the species may be no more susceptible to the disease than any other, there is no doubt about the disposition possessed by this animal, which renders it peculiarly unsuitable to the position of a pet or house dog, in which snarling and biting are most inappropriate not to say dangerous qualities. Certainly at a time when hydrophobia is prevalent, as will be seen by the cases which we publish in this number, it is desirable that all ugly-tempered brutes of the dog family should be securely muzzled or exterminated. The increasing prevalence of hydrophobia should render the authorities very strict in their enforcement of the laws which relate to the licensing of these animals.

— An advertisement has appeared from time to time in one of our daily papers setting forth the merits of a book entitled *The Science of Life; or Self-Preservation*, the advertiser claiming an indorsement of his work by the *London Lancet*. In an article entitled *Unscrupulous Advertising*, the *Lancet* protests that it has not at any time been guilty of noticing the book or pamphlet referred to, the title of which is sufficient to bespeak its pernicious character. One would hardly require the denial of a respectable journal to believe in the spurious character of such a statement. We should as soon expect our English contemporaries to believe that the so-called "Philadelphia diploma" was recognized in this country.

— *The British Medical Journal* gives an account of the Bressa prize, which was established by the will of Dr. Cesare Alessandro Bressa. With the interest of the property a biennial prize was to be established and administered in the following manner: "The net interest of the first two years to be given in premium to that person, of whatever nation or country he be, who shall have during the previous four years made the most important discovery or published the most valuable work on natural and experimental philosophy, natural history, mathematics, chemistry, physiology, and pathology, as well as geology, history, geography, and statistics. The net interest of the two following years to be given to an Italian who, by judgment of the above-named Academy of Turin, shall have made the most important discovery or published the most important work on any of the above-mentioned sciences. The prize will continue to be distributed in the same order." The Academy has accepted the task, and the first open prize will be given in 1879. The value amounts to twelve thousand Italian *lire*, or nearly four hundred pounds sterling. The Academy will choose the best work or discovery, whether or not it be presented by the author. The prize will in no case be given to any of the national members of the Academy of Turin, resident or non-resident. In the year 1881 the second Bressa prize will be given to an Italian, and so on; every four years there will be a Bressa prize for competition among scientific men of any part of the world, and every four years one which can be competed for by Italians only.

— *The Lancet* reports from the *Indian Medical Gazette* an account by Dr.

R. T. Wright of the manner in which the native doctors in India cut for stone. The patient is first drugged with *cannabis indica*, and the bowels are emptied, after which he is tied up in the usual lithotomy position. The practitioner then, without using any sort of staff, passes the index and middle fingers of his left hand into the rectum, while with his right hand he presses on the supra-pubic region, so as to bring the bladder and its contents as far as possible within the reach of the left hand. He then pushes the stone towards the perinaeum with the fingers which are in the rectum, and then with an old razor makes a free incision *transversely* across the perinaeum, knowing and caring nothing about the anatomy of the region, but cutting deep enough to reach the stone, which he hopes will come out with a jerk when he has cut far enough. If it does not jump out he either pulls it out with his fingers or forceps, or extracts it with a goat's horn or a rough scoop. Undue hæmorrhage, said, however, to be unusual, is stopped by the application of ashes and earth.

— Dr. N. S. Davis, in an article published in *The American Practitioner* for January, 1877, calls attention to the remedial value of the *œnothera biennis*, or evening primrose. He regards it as a mild but efficient sedative to nervous sensibility, acting more especially on the pneumogastric nerve. Hence its adaptation to the treatment of such cases of respiratory or gastric trouble as involve a morbid sensitiveness either in the laryngeal, pulmonary, or gastric branches of that nerve, whether of an acute or chronic character. It is certainly worthy of further trial in the treatment of such affections as whooping-cough, spasmodic asthma, and certain sensitive conditions of the stomach interfering with healthy digestion.

The *œnothera biennis* grows abundantly throughout all the Middle and Northern States, if not throughout our whole country. As a medicine it may be used in the form of an infusion or fluid extract. The former may be given to adults in doses of one or two table-spoonfuls, the latter of from twenty to thirty minims repeated every three, four, or six hours, as the case may require.

— Privat-docent Oser, in a recent number of the *Wiener medizinische Presse*, says that two years' additional experience has confirmed him in the belief that an elastic tube is much better for the purpose of rinsing out the stomach than the gutta-percha sound hitherto in common use. The tube is of India rubber, two meters long, and with perfectly smooth surface; both ends are rounded off by heat; two sizes are employed, the smaller tube having a lumen of eight millimeters and a wall two and a half millimeters thick, and the larger one a lumen of ten millimeters and a wall of three millimeters. This latter is preferable, as it is less compressible and allows the passage of larger substances through it. The tube is passed at the first sitting by the patient himself, who takes it between the forefinger and thumb of the right hand, lays the end on the back of the tongue, makes a swallowing act, and then pushes it gently along, during successive pauses between the acts of swallowing, deeper into the œsophagus. Patients learn the manipulation at the first sitting; the method of introduction causes decidedly less annoyance than the ordinary passage of a tube by the physician himself. The patient has less anxiety, gains confidence quicker in the manipulation, and the reaction is less. There is no danger of injury to the mucous membrane. After a few trials he can readily feel the



tube touch the lower end of the stomach and quickly recognizes the depth to which it should be passed to best allow of a free evacuation of the contents of the stomach. The action is on the principle of the siphon; the tube when fully introduced is pressed together between the fingers at the lips and the free end is filled with liquid through a tunnel. If the end is now sunk below the level of the stomach, the fluid flows out of the stomach in a strong stream. If the stream is interrupted by a contraction of the œsophagus or diaphragm, the tube is withdrawn about a centimeter and then pushed back; the stomach is thus induced to contract, and a beneficial influence upon the muscular coat is induced. In dilatation of the stomach from any cause and in chronic catarrh it is of service. Unfortunately, there are certain cases in which from the first the pharynx is so irritable that the procedure cannot be perfectly carried out, as the contraction is so great and the vomiting so persistent that the tube does not enter. Here, as well as in those cases where it is necessary to pump out solid particles of large size, it is necessary to have recourse to the stiff tube, as the exhaustion of air causes the flexible tube to collapse.

— Dr. B. W. Richardson, who in 1875 presented in an address before the Social Science Congress a picture of a Model City of Health, has recently described at the London Institution the Model Dwelling-House. To make a dwelling-house healthy he says we must have pure air, pure water, freedom from damp, daylight, and equable temperature, and these he says “are the five fingers of the right hand of health.” The construction of the basement we are told must be reformed. It should “no longer be a living-place, a cooking-place, a laundry, a bottle vault, refuse-store, servants’ bedroom, drain-trap, and lavatory,” but an arched subway of one or more arches, with a free current of air through each. Water and gas pipes are to enter the house through it. One or more of the arches may be fitted up with furnaces or stoves, through which air can be drawn, and then, heated and purified, passed up into the house. But the basement is never to be entered by any direct shaft communicating with the rooms above it. The construction of the staircase must be changed. “In the present construction the staircase is the shaft of the dwelling through which all the products of respiration, combustion, and other forms of volatile impurity rise from the lower to the upper floors.” In the model house the staircase is to be placed at the rear of the building, in a distinct shaft or tower of its own, leading straight from the ground-floor to above the level of the house. On each floor there is to be a door, and each flat is to be independently warmed, lighted, and ventilated. The shaft is to contain ventilating tubes, closets, lavatories, and a lift. The kitchen and the servants’ dormitories are to be on the upper floor of the house; and on the flat, asphalted roof of the house there is to be a glass-covered garden in which the stair-shaft shall end, “and if any impurities reach this covered garden, with its summer temperature always derived from the kitchen just beneath it, these impurities will be consumed by the plants. Such are some of the principal points of the plan, regarding which the *Medical Times and Gazette* says: “We suspect the occupier of the model house would need a model income. . . . There is one objection that may be made to his [Dr. Richardson’s] sanitary proposals, — they are too great and grand; too much like Utopian dreams.”

## MASSACHUSETTS GENERAL HOSPITAL.

## SURGICAL CASES OF DR. WARREN.

[REPORTED BY O. T. HOWE.]

*Contraction of Fingers from Burn : Plastic Operation.* — M. M., a servant-girl, twenty-three years of age, entered the hospital August 12th. Twenty-one years before she received a severe burn on the hand, which resulted in contraction and nearly complete flexion of the fourth and fifth fingers. As this interfered with her work, four weeks before she entered the hospital she had the little finger, in which the contraction was greatest, amputated at the second joint. Finding that the contracted ring-finger still prevented a free use of the hand, she entered the hospital for further treatment.

August 13th. The following plastic operation was performed on the hand: the cicatricial connective tissue and skin holding down the ring-finger was divided, and the resulting raw surface was covered by a flap taken from the skin of the stump of the fifth finger, the first and only remaining phalanx of which was removed at the same time. The flaps were stitched together and dressed with carbolic cerate (five grains to the ounce), the hand being put on a splint so as to keep the finger extended. Although suffering from considerable pain after the operation, the patient did well until August 22d, when the hand and carpus became swollen and painful, necessitating an incision below the annular ligament, which let out a large amount of pus. From this time the wound healed rapidly, and when she was discharged, September 22d, the finger could be entirely straightened without pain and she was beginning to recover the control of it. When seen several months after the operation there had been little or no return of the contraction, and the patient had been able to use it with perfect freedom in her work.

*Fistulous Opening near the Base of the Coccyx containing Hair.* — C. L., twenty years of age, entered the hospital October 21, 1876. One year before she fell upon the ice, and soon after began to experience pain in the region of the coccyx. She was examined by her sister, who found a fistulous opening at the junction of the sacrum and coccyx. This had discharged thin, unhealthy pus up to the time she entered the hospital. On examination two fistulous openings were found in the median line of the buttocks, over the sacrum. The lower one was at the junction of the coccyx and sacrum, and the upper about an inch above it. A probe could be passed both upwards and downwards for a considerable distance. A diagnosis of hair cyst was then made.

October 23d. The girl was etherized and the sinuses freely opened. At the bottom of the abscess a coil of hair was found and carefully removed with the forceps. The wound was then dressed with charpie and myrrh wash, but it healed very slowly.

November 9th. The wound appearing stationary and the edges hard, an acid wash was substituted for the myrrh, and on December 5th the patient was discharged well. Several examples of this disease have occurred recently at the hospital, although there have been none before for many years.

A number of these cases are described by Dr. J. Mason Warren in his *Surgical Observations*. He explains their formation by the ingrowth of a hair or hairs from a single follicle. The occurrence of the affection always in the median line and between the folds of the nates is explained "by the constant pressure and moisture of the part, softening both the newly formed hair and the epidermic cells surrounding the mouth of the follicle." Patients applying for relief generally suppose, says this author, that they are suffering from fistula in ano.

*Recto-Vaginal Fistula.* — H. S., nineteen years of age, entered the hospital July 19th, with a recto-vaginal fistula following childbirth. Six months before she had been delivered of a large child. Forceps were used, and the perinæum was ruptured through the sphincter. The raw surfaces were united with the interrupted suture and union by first intention took place, leaving, however, a recto-vaginal fistula.

This at first was quite large, and a considerable amount of fæces escaped through it, but during the six weeks previous to her entering the hospital it had diminished in size, so that nothing but, gas passed through. It barely admitted an instrument the size of a pen handle.

July 22d. The fistula was touched with strong nitric acid, and the patient put on liquid diet to avoid any operation of the bowels.

July 30th. Bowels were moved by castor-oil, nothing passing through the fistula.

For the next three weeks the fistula was touched every four days with a fine stick of argentic nitrate, and at the end of that time, there being no diminution in the size of the fistula, ether was given on August 20th, and, the edges of the fistula being freshened, the vaginal mucous membrane was dissected up freely on each side. A deep "bag-string" silver suture was passed from the posterior margin of the anus on the left side through the recto-vaginal septum above the wound to a corresponding point on the opposite side. This was intended to bring together the separated and retracted edges of the sphincter muscles, the evident cause of the fistula; superficial sutures were then taken both through the vaginal and rectal mucous membranes, in all eight. The patient was kept in bed on fluid diet to prevent a movement of the bowels, which had been well emptied before the operation. A dose of oil was given at the end of ten days and was followed by a free evacuation. One of the wire sutures was removed on August 28th, the rest at the end of a fortnight, and union was found to have taken place. The patient left the hospital a few days later.

*Cut Throat.* — M. R., forty-five years of age, entered the hospital October 1, 1876. She had been slightly deranged for several months. Two hours before her entrance she attempted suicide, by cutting her throat. She had made three incisions, resulting in a deep gash which, starting from just in front of the great vessels of the neck on each side, penetrated the upper rings of the cricoid cartilage, without, however, injuring the œsophagus. Ether was given, all bleeding points were tied, and a tracheotomy tube was inserted through the cut she had herself made. The incision in the throat was then carefully sewed up and dressed with compresses wet in carbolic wash (1 part to 40). The patient's pulse after the operation was feeble, and she received

two ounces of milk punch every two hours during the night. The next morning she was much better, and on the tenth day she took solid food. The stitches were removed on the fourth day. Union by first intention was secured only to a small extent. The wound, however, healed by granulation, and on November 5th the tube was removed. On November 11th she was discharged well.

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#### LETTER FROM BALTIMORE.

MESSRS. EDITORS,—The subject of insane asylums and of treatment of the insane is more than ever agitating the public mind here. Since our last, attention has been directed to the almshouse, or “Bay View” as it is called, which answers the purpose of an asylum for insane paupers, and where it seems a case of cruelty and malpractice was alleged to have occurred. The report of the committee of investigation was duly received in the second branch of the city council and adopted. A minority report was also offered, accompanied by some fifty foolscap pages of evidence taken before the committee. The gentleman who presented it stated in explanation of his course that the other members of the committee had evaded the evidence in preparing their report, and had also failed to comply with the requirements of the resolution ordering the investigation, that the evidence should be submitted to the council for their judgment: that even if the evidence of the patient’s friends were omitted, that of the officers at Bay View proved conclusively that although the charge of malpractice was not sustained, that of cruelty was; that the patient’s legs were undoubtedly frost-bitten and not affected entirely with gangrene; that he was bound and manacled so as to be unable to cover himself with the bed-clothing, and confined alone in a cell, the door of which was shut between him and the heating pipes in the basement adjoining, and that the temperature in this cell had fallen from thirty-seven degrees above zero to only seven degrees above, which was certainly cold enough to cause frost-bite. After a running debate the minority report was rejected by a vote of five to two.

Dr. Chancellor’s resolutions in reference to the transfer of the indigent insane from Bay View Asylum to Spring Grove has been called up in the city council, and occasioned, recently, a very extended discussion. He spoke of the superior facilities for treatment of the insane at Spring Grove. At Bay View, he said, raving maniacs were frequently confined in the same room with patients requiring rest and quiet, and the maniac’s condition made worse by being shackled with heavy irons, and being tightly bound to prevent injury to himself or others. At Spring Grove, on the contrary, every modern appliance, approved by those who have had most experience with insanity in all its stages, is furnished.

The matter has at length attracted the attention of Governor Carroll to the management of all such institutions in the State. On Thursday last Dr. Chancellor, secretary of the State Board of Health, received a letter from the governor instructing him to make, at as early a date as is practicable, a thorough inspection of the prisons, asylums, public hospitals, and almshouses throughout the State; to examine carefully their sanitary arrangements, the number of inmates in each, their condition, and mode of treatment. The governor, who

first suggested this measure several weeks ago, further instructs the inspector in making this inspection to have especial reference to the insane paupers and the manner in which they are treated, as well as the methods adopted to restore them to reason. This investigation, we are informed, will begin in a short time, and a full and detailed report of the same will be made as soon as it is completed.

The salting of railway tracks has also been brought up and discussed, President Bowie, of the city passenger-railway company, speaking in his report of the advisability of a repeal by the council of the ordinance prohibiting the salting of tracks. He expressed the hope that the attention of the medical faculty would be directed to the matter. The following are a few of the opinions expressed by our authorities on medicine and hygiene, embracing also the views of some of our prominent practitioners: Professor William R. Aikin, analytical chemist, was of the opinion that salt had no direct effect upon the production of diphtheria. The manner in which salt upon the tracks might be expected to affect pedestrians was in the way of catarrhal affections, the mixture of salt with snow producing a compound of very low temperature, and causing the otherwise dry snow to remain liquid. The notion that a large quantity of salt finds its way into the atmosphere he believed to be false, as when salt is evaporated the vapor is fresh, the deposit of salt remaining behind. With regard to injurious effect upon the horses' feet, he claimed to be unable to judge.

Dr. Harvey L. Byrd said that salt was an antiseptic, and was daily used in that capacity wherever animal matter was to be kept in good condition. This is the special character of an antiseptic, that it destroys organisms of a low form of life. Any salt that might exist in the atmosphere would have rather a beneficial effect than otherwise. We go to the sea-shore to inhale salt air and recruit. The effect on the horses' feet was merely a softening of the hoof, and not a disease, either local or general.

Dr. G. Halsted Boyland thought that the effect, whether beneficial on theoretical grounds or injurious to pedestrians, was very slight. If salt is mixed with snow in a room twenty-eight degrees above zero it forms a compound the temperature of which sinks in the course of eight minutes to four degrees below zero, where it remains stationary for about eight or ten minutes, and then rises immediately but slowly, until at the end of thirty minutes we have a mean temperature of twenty degrees above zero, quite bearable to man and beast. The very coldest point indicated by this repeated and well-known experiment is still above the degree of cold observed in many large cities in moderately cold weather.

The "yellow-fever" or "typho-malarial" district, comprising a line on the shore of the bay in the portion of the city towards Canton, where the diseases in question prevailed to some extent last summer, is, we understand, the subject of a report from some of the medical societies to the mayor, and action is to be taken to prevent a recurrence of the outbreak which was so thoroughly and efficiently stamped out last year. Some say it was "yellow jack," others not.

*February 19, 1877.*

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MARCH 3, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228			27.46
Philadelphia	850,856	311	19.01	22.88
Brooklyn .	527,830	238	23.45	24.31
Chicago . .	420,000	149	18.45	20.41
Boston . .	363,940	165	23.58	23.39
Providence	103,000	40	20.19	18.34
Worcester .	52,977	20	19.63	22.00
Lowell . .	53,678	17	16.47	22.21
Cambridge	51,572	7	7.05	20.54
Fall River	50,370	14	14.45	22.04
Lawrence .	37,626	19	26.26	23.32
Lynn . .	33,524	13	20.16	21.37
Springfield.	32,976	3	4.73	19.69
Salem . .	26,739	16	31.12	23.57

Normal Death-Rate 17 per 1000.

SUMMARY FOR FEBRUARY. — The general death-rates in the cities named above indicated a satisfactory state of the public health during February. The absence of epidemic disease and the favorable weather will account for this condition in great measure.

In New York, phthisis, pneumonia, and bronchitis were the chief causes of death. The principal zymotic diseases (scarlatina, diphtheria, croup) were less fatal than in January.

In Philadelphia, small-pox, which was quite fatal in January, has diminished. Of the other zymotic diseases, scarlatina, diphtheria, and croup were the most prevalent. The general death-rate was under 18 per 1000.

In Brooklyn, there was a marked decline in the zymotic death-rate. Scarlatina, however, has shown a slight increase in fatality. Pneumonia was, next to phthisis, the cause of the greatest number of deaths.

Chicago continues to report an excessive mortality from scarlatina.

In Boston, the month was marked by a decided decline in the fatality of scarlatina, the deaths decreasing from 25 in January to 9 in February. Other diseases have not varied materially from the record of last month. Death rate for February, 17.6.

Providence was remarkably exempt from fatal diseases in February; its general death-rate was 13.6, against 17.8 in January. Diphtheria stands next to phthisis among the greatest causes of mortality, but the fatality from diphtheria was less than in January.

In the eight Massachusetts cities besides Boston, phthisis, as usual, headed the list of the causes of death; next was diphtheria, but much below the record of January; pneumonia showed a slight increase; scarlatina has declined.

F. W. D.

BOOKS AND PAMPHLETS RECEIVED. — A Course of Practical Histology. By Edward A. Schäfer. Philadelphia: Henry C. Lea. 1877. (From the publisher.)

Report of the Fifth Ophthalmological Congress, held in New York, September, 1876. Published by a Committee composed of Hermann Knapp, Henry D. Noyes, Charles S. Bull, and Richard H. Derby. New York: D. Appleton & Co. 1877. Pp. 265.

Milk Sickness. A Paper read before the Inter-State Medical Convention held in the City of Toledo on the 28th, 29th, and 30th of November, 1876. By W. H. Philips, M. D., of Keaton, Harding County, Ohio. (Reprinted from Cincinnati Lancet and Observer.)

Pneumatic Pressure and the Genu-Pectoral Posture in the Reductions of Uterine Luxations. By A. Sibley Campbell, M. D., Augusta, Georgia. New York: William Wood & Co. 1877. (Reprinted from the American Journal of Obstetrics and Diseases of Women.)

WE would remind "Medicus" that we do not read anonymous communications. We must therefore request his name.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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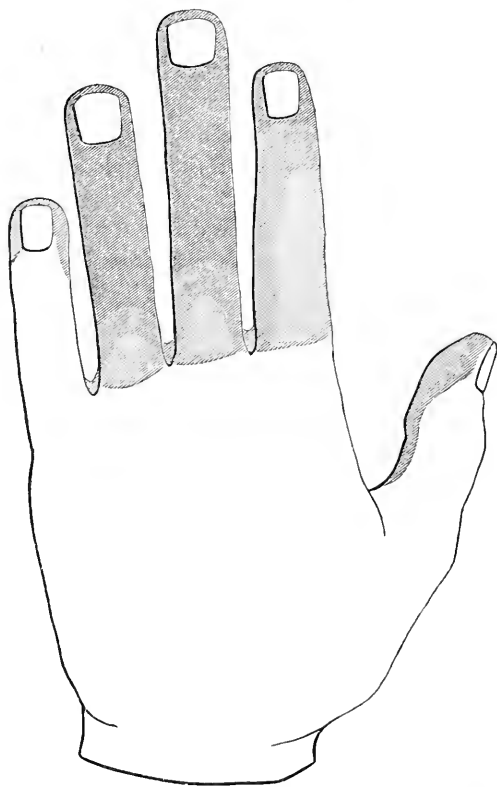
## A CASE OF SECTION OF THE MEDIAN AND ULNAR NERVES.

BY JAMES J. PUTNAM, M. D.

THE publication of this case is justified by the fact that, from its peculiar nature, it illustrates very well certain points concerning the distribution of the cutaneous nerves of the hands and fingers.

The patient, a young man in good health, in manipulating the sash of a window accidentally drove his hand through the pane, inflicting a deep flesh wound on the front of the wrist, from about the median line almost to the ulnar border of the arm, leaving behind it, in healing, a scar of about one inch and a quarter in length. The early history of the case may be passed over as unimportant in this connection. The patient was first seen by me, in the out-patient department of the Massachusetts General Hospital, five weeks after the accident, and at that time the characteristic features of his condition, as regards the anæsthesia, the atrophy of the muscles of the hand, etc., seemed essentially as at a later period, but owing to the presence of symptoms of irritation of the nerves, as well as of inflammation of the tissues about the wound, no careful examination was made until a few weeks afterwards. At this time all the muscles of the hand were found completely incapable of responding to voluntary impulses or to the induced current, while all responded with especial readiness, and with the familiar "wave-like" motion, to the stimulus of weak galvanic currents, particularly when the positive pole was applied over them (at least this latter point was noted at a later time) ; some of them, however, — the adductor pollicis, the first interosseous, and some of the muscles of the thenar eminence, — more readily than the rest. In the course of the two months following, several careful examinations were made with a view to determining the limits of the anæsthetic district, with results which varied somewhat, though for the most part unessentially. The examination which formed the basis for the statements made in this paper, illustrated also by the diagrams which accompany it, was especially protracted and minute, and the results may, I think, be relied upon as accurate. The manner of expressing the various degrees of anæsthesia is essentially that adopted by Dr. S. Weir Mitchell : the three zones representing respect-

ively the regions where (1) sensation was absolutely lost; (2) the sense of touch was lost while strong impressions were still felt; (3) the sensibility of the skin was only slightly modified. For the production of powerful excitations the skin was pricked deeply with a needle, or was touched with a *single wire* connected with one pole of an induction battery, the other pole being represented by a pad placed on the moistened skin at a distance. It has been claimed that the use of the wire brush is objectionable in these cases, as giving rise to indistinct sensations which are really due to excitation of nerve filaments at a greater or



(FIGURE 1.)

less distance from the point touched. It is true that when the whole brush is placed upon the skin a sort of thrill may be felt, which may be referred, for example, to the whole of a finger, and may be supposed to obscure other sensations due to the local irritation; comparative experiments, however, failed to convince me that, in this case at least, such objection could fairly be raised against the use of a single wire. The slight sense of vibration which was occasionally, though rarely, spoken of by the patient was always distinguished with readiness from the acute local pain, and the limits of the anæsthesia as thus obtained did



not differ materially from those obtained by the use of the needle, where the effects of the two irritations were compared. On the other hand, the two methods are not to be compared from the point of view of convenience.

For estimating the sense of touch a feather was used, or, what seems equally good and is often more convenient, a bit of twine two or three inches in length. For estimating the lesser degrees of anæsthesia Dr. Mitchell uses the æsthesiometer. Experiments were made with it in this case, but the results did not seem to me sufficiently satisfactory to deserve notation; less so than the statements of the patient as to whether the sensations excited by a light touch were "natural" or "unnatural."

The information given by the diagrams may be supplemented by the following remarks.

It is evident, from the fact that the sensibility of the skin over the back of the little finger was unimpaired, that the dorsal branch of the ulnar nerve, which is given off before the nerve enters the hand, escaped section in this case, and a good opportunity is therefore furnished for studying its distribution. One branch of it seems, whether normally or not, to supply, in part, the whole palmar surface of the first phalanx of the little finger.

The mode of distribution of the median and ulnar nerves to the backs of the fingers corresponds almost exactly with that established by the careful dissections of Richelot.<sup>1</sup>

The statement of Léticiant, that a vibratory irritation, such as may be produced by drawing the point of a pin or a stiff piece of paper across the skin, may be transmitted through anæsthetic parts to the still healthy nerve filaments of adjacent regions, and give rise to an indefinite feeling which may be mistaken for a sign of preserved local sensibility, could be distinctly confirmed in this case with regard to the end of the forefinger.

On the other hand, the impression left by Léticiant's statement, namely, that if sufficiently strong excitations are chosen the space within which the anæsthesia is complete will generally be found to be quite small, was not strengthened by the examination of this case. The limits of the complete anæsthesia were sharply defined, and only exceptionally a point could be found a little distance within the line where a strong excitation could still be felt. A deep burn was received on the dorsal surface of the second phalanx of the middle finger without the knowledge of the patient. It healed well, but even strong irritation of its exposed base was unfelt. It is well known that Arloing and Tripier have affirmed, with regard to dogs, that the whole skin over each paw is

<sup>1</sup> Archives de Physiologie, No. 2, 1875. The JOURNAL for September, 1875, vol. xciii, No. 2. Report on Anatomy, Dr. T. Dwight.

supplied with some degree of sensation by each of the main nerves of the limb, but the rule evidently does not hold for man. Among the cases collected by Létievant, to be sure, there are some which seem to warrant the possible validity of such a view, but many others are reported (by Mitchell, Richelot, and others) where, as here, the anæsthesia was complete over the greater part of the space which we have anatomical reasons for believing to be supplied by the injured nerve (of course the existence of well-known anastomoses being taken into consideration).



(FIGURE 2.)

The condition of the sensibility of the palm of the hand is worthy of notice. The line limiting the anæsthesia will be seen to correspond quite nearly with the arterial palmar arch, and anteriorly it corresponds quite well also with the line at which, according to Rüdinger's atlas, a number of terminal fibres of the median and ulnar nerves, coming up from below, pierce the palmar fascia, passing, apparently, to supply the skin of the palm further forward. The central part of the palm, therefore, is evidently supplied mainly, in this case at least, either by a branch of the median, given off above the point of section, the *nervus cutaneus palmaris*, or by the *nervus cutaneus brachialis medius*.

For the sake of completion, two facts still deserve mention. At the second of the earlier examinations of the patient, the skin over the dorsal surface of the second phalanx of the ring-finger was found somewhat sensitive to powerful irritations, and, supposing the observation not to have been faulty, this shows that this region must have been supplied by a few fibres from either the radial or the dorsal branch of the ulnar, which at a later period became degenerated.

Between the thumb and forefinger was a spot where light rubbing caused a thrill to run down the radial side of the forefinger, indicating the presence there of an inflamed nerve twig, probably belonging to the radial nerve.

At the time of writing, which is six months after the accident, the voluntary power of the patient over the muscles of the hand has not shown any signs of gain, but according to a recent incomplete examination the anæsthesia seems to have withdrawn itself within somewhat narrower limits, at least as regards the palm of the hand.



A REPORT ON THE PERCENTAGE OF NEAR-SIGHT FOUND TO EXIST IN THE CLASS OF 1880 AT HARVARD COLLEGE, WITH SOME ACCOUNT OF SIMILAR INVESTIGATIONS.

BY HASKET DERBY, M. D.

CHARLES W. ELIOT, LL. D., *President of Harvard College* :

SIR, — I present herewith the results of an examination of the eyes of the present freshman class, made in the month of January, 1877, and undertaken with the view of determining the percentage of near-sightedness in the class on entering college as compared with the percentage of near-sight that would be found to exist at the termination of the under-graduate course.

Near-sight, or myopia, is by no means the innocent affection that ordinary text-books on physiology have so long represented it. Perhaps no idea concerning the organ of vision is more firmly grounded in the popular mind than that a near-sighted eye is a *strong* eye, the difficulty depending on an undue convexity of the crystalline lens or of the cornea, and likely to be corrected in after-life by the flattening of one or the other. This is wholly false. Near-sightedness depends on a change in shape, an elongation of the eyeball; its progress, on an increase of that elongation; its dangers, on that elongation being pressed beyond the power of endurance of the tissues of which the organ of sight is composed.

Near-sight is either stationary or progressive. The former variety is, unfortunately, comparatively rare. Having remained at the same point up to about the fortieth year, it may afterwards even slightly

decrease, as the crystalline lens flattens and the pupil contracts, thus neutralizing to some extent the unnatural length of the globe.

This state of things is, however, the exception; progression is the rule. The words in which this is described by Donders have, for years, been classical: "When the increase in length of the eye has reached a certain point, its layers become so thin and their power of resistance so much diminished that the stretching process can *no longer remain stationary*, especially as the pressure in the interior of the myopic eye is generally somewhat heightened. The progressive stretching and the progressive myopia go hand in hand, *and here we have a true disease of the eye. I unhesitatingly proclaim a myopic eye to be a diseased eye.* High degrees of myopia are much less likely to remain stationary than slight degrees; even in advanced age they are liable to increase. Nearly all myopia is progressive in the young, its increase being often coupled with symptoms of irritation. This time of life is the critical one, for the myopic eye; if, during its continuance, the myopia does not appreciably increase, it may become stationary. If, however, it considerably advances, it will ultimately become more difficult to limit its progress. *This is therefore the time when special efforts must be made to guard against injurious influences.* On this point I can hardly lay sufficient stress. Apprehension must be entertained with regard to the future of every case of progressive myopia. For, if it constantly progresses, distressing symptoms soon arise, interfering with the usefulness of the eye. And, not infrequently, at the age of fifty or sixty, *in some cases even earlier*, vision may be irretrievably destroyed. Such an issue may be due to *retinal separation*, to *hæmorrhage*, or finally to *atrophy* (suspension of nutrition) and *degeneration of the macula* (the most sensitive portion of the retina)."

Modern science has fortunately provided the surgeon with a means of accurately measuring and expressing the amount of myopia present in any eye, and has also given him a formula for indicating the amount of vision inherent in that eye when furnished with the glass neutralizing its near-sight. Thus the myopia and the vision being measured and stated in simple figures, a subsequent examination would easily ascertain whether the myopia has progressed or the vision degenerated, and express it in the same simple manner. The difference between the first and second sets of figures would show the extent of the increase, the amount of the degeneration.

Such examinations have, for some years, been made on the continent of Europe, and recently in this country. A brief reference to their results will clearly demonstrate their utility.

The point they illustrate is the progress of myopia, due to the modern system of education.

The end in view is the elimination, as far as possible, of the special exciting cause or causes, when they are once ascertained.

About the year 1867, Dr. Cohn, of Breslau, examined the eyes of 10,060 school children and pupils. His results may be summarized as follows : —

In no village school was myopia found among children who had not yet completed their first half year of work. In these schools, taken as a whole, there was found 1.4 per cent. of myopia.

Taking all schools together, and following the scholars, at successive intervals, from the first half year to the fourteenth year of school life, the percentage of myopia was found to be the following : —

1st Half Year.	2d Half Year to 2d Year.	3d and 4th Years.	5th and 6th Years.	7th and 8th Years.	9th and 10th Years.	11th and 12th Years.	13th and 14th Years.
0.4	4.8	8.6	7.9	11.3	24.1	49.5	63.6

In 1871, Dr. Erismann published the results of his investigations of the condition of the eyes of 4358 scholars at various educational establishments in St. Petersburg. The pupils were aged from eight to twenty. Taking the classes in order, the fifth being the most advanced, the following results were obtained : —

Class.	Percentage of Myopia.	Class.	Percentage of Myopia.
Preparatory.....	13.6	III.....	30.7
I.....	15.8	IV.....	38.4
II.....	22.4	V.....	41.3

In 1874 and 1875, Dr. Conrad examined the eyes of 3036 school children in Königsberg.

He found the percentage of myopia to rise as follows : —

Class.	Percentage of Myopia.	Class.	Percentage of Myopia.
VIII. (youngest).....	11.1	IV.....	28.44
VII.....	15.8	III.....	44.39
VI.....	20.5	II.....	54.59
V.....	21.8	I.....	62.10

In 1872, 1873, and 1875, Dr. Reuss examined 1050 pupils at the gymnasia of Vienna.

His results are here shown : —

Class.	Percentage of Myopia.	Class.	Percentage of Myopia.
I.....	33.4	V.....	43.5
II.....	39.4	VI.....	47.7
III.....	47	VII.....	61.4
IV.....	48.2	VIII.....	59.6

After one year Dr. Reuss found forty-one per cent. of the myopic eyes unchanged, while the difficulty had increased in 47.7 per cent.

In the third year 28.4 per cent. only remained unchanged, while sixty-one per cent. had grown more near-sighted.

In 1876, Dr. Pflüger published the result of his investigations in the schools of Lucerne, 1846 pupils being examined.

Myopia was found to be present in the following percentage, according to age : —

Year of Life.	Percentage of Myopia.	Year of Life.	Percentage of Myopia.
7	0	15	26
8	2	16	30
9	3	17	43
10	6	18	55
11	6.5	19	56
12	6	20	40
13	10	21	61.5
14	14.5		

In our own country, Dr. Agnew, of New York, has instituted examinations of the eyes of 1479 school children and advanced pupils in Cincinnati, New York, and Brooklyn. His results were published during the present year. They are as follows : —

CINCINNATI.		
School.		Percentage of Myopia.
District .....		10
Intermediate.....		14
High .....		16
NEW YORK COLLEGE.		
Class.		Percentage of Myopia.
Introductory.....		29
Freshman .....		40
Sophomore .....		35
Junior .....		53
Senior .....		37
BROOKLYN POLYTECHNIC.		
Department.		Percentage of Myopia.
Academic .....		10
Collegiate .....		28

From the foregoing figures the influence of study on the development and advance of near-sight may readily be appreciated. The facts speak for themselves.

It has occurred to me that by following the same class through its school or collegiate course, and noting the different phases that myopia assumes in the same individual at different periods of his career, results of much practical importance might be attained. A study of the cases where myopia most progressed might add to our knowledge of its cause, and increase our means of prevention.

I commenced in the fall of 1875 with Amherst College, and continued the investigation last autumn. The classes of 1879 and 1880 were required to report to me for examination, and were furnished time for that purpose. Twenty-eight per cent. of the former class were, in the

fall of 1875, found to be myopic. One year later fifty per cent. of these had grown more near-sighted. Twenty-seven per cent. of the latter class were found, early in their freshman year, to be myopic.

The kindness of the faculty of Harvard College enabled me to examine volunteers from the class of 1880, in January of the present year. One hundred and twenty-two presented themselves for that purpose.

Of these, 29.5 per cent. were found to be myopic.

The accompanying printed forms are filled in with the name and age of each individual, the state of each of his eyes as separately tested by glasses and the ophthalmoscope, the amount of his vision, and remarks on his previous history and family peculiarities in this regard. Blanks are left for a similar examination at the close of the senior year. Only a little over half of the class presented themselves. The percentage of near-sight corresponds to a remarkable degree with that obtained by Dr. Agnew in New York and Brooklyn, and by myself at Amherst. It is worthy of remark that *twenty-two per cent.* of the near-sighted members of the Harvard class of 1880 had, up to the time of the examination, supposed their vision to be normal.

The advantages of such examinations to the college student are manifest. He is enabled at no further outlay to himself than a trifling expenditure of time and trouble to obtain, at the outset of his collegiate career, important information in regard to the state of his eyes, their availability for study, and the course he must pursue to maintain their integrity or keep existing evils from increasing. At the termination of his under-graduate course he learns the effect of his four years of study, and is thereby enabled to form or modify his future plans; and in after life he can at any time, by consulting the college records, learn to what extent his eyes have varied from the condition they were in, and to what extent his vision has altered from the amount he possessed when he was an under-graduate.

But such examinations, to be reliable and truly valuable, require the attendance of the whole class. And I would respectfully submit to the consideration of the proper authorities whether, in view of the reasons now alleged for making and following up such investigations, it may not be found expedient to insist on every member of the freshman class passing this trifling ordeal on the occasion of his admission to college, and on his submitting to it once more just previous to the termination of his senior year.

I would here express my deep obligation to Professor Wolcott Gibbs, who took pains to arrange his lecture room and laboratory for my examinations, and placed them for several days at my disposal at considerable inconvenience to himself. Also to Dr. Wm. S. Dennett, of Boston, who materially lightened my labors by undertaking the ophthalmoscopic examination of every case, and furnished me with two hundred and forty-four (244) separate estimates of refraction.

In conclusion I would direct the attention of the faculty to the following points: First. Myopia is probably not, as commonly supposed, congenital. It is admitted that a tendency to the disease may be and is frequently inherited. Second, it has been shown by the very numerous examinations above cited that it occurs among school children at first in a very small proportion of the whole number, and that it increases with the course of study till, in many cases, not less than sixty per cent. of the graduates of European colleges and high schools are found to be myopic.

It is only by a most careful and thorough study of the disease, as prevalent in schools and colleges, that we can hope to devise means of preventing its extension and its progress in individuals.

[NOTE. As an appendix to the foregoing, I will briefly report a case that illustrates two points I have alluded to: first, the development of myopia in a person born emmetropic, but inheriting strong tendencies in the direction of near-sight; second, the rapid and alarming progress of unchecked myopia.

March 11, 1868. Saw this day for the first time Master M., aged ten. His father is quite near-sighted, and has for many years used concave glasses, what number I am unable to ascertain. His mother has in the right eye a myopia of 5.75 dioptics, left M. 4.5. The lad himself has *right* emmetropia, *left* M. 0.75. Interni strong; each fundus normal. He comes for slight asthenopic symptoms, and the refraction is merely noted incidentally. Vision of each eye normal.

November 1, 1870, M. 0.75 in each eye.

June 20, 1873, *right* M. 2.25, *left* M. 2.75. Patient is on his way to Europe. A course of atropine treatment is advised on his return in the fall.

I now lost sight of him for more than two years, during which time he was preparing himself for the examination to enter college. November 26, 1875, I found M. 4.50 in each eye, also in each a progressive posterior staphyloma. Atropine treatment and entire rest were again earnestly advised, but not concurred in by the parents.

The course of study has, notwithstanding all this, been steadily persevered in. At his last visit, March 1, 1877, Mr. M. had M. 5.50 in each eye by sight-test and ophthalmoscope, and each staphyloma was becoming marked. No suggestions with regard to rest or treatment were heeded.

Here is a progressive change, ranging in nine years from emmetropia in one eye and M. 0.75 in the other to M. 5.50 in each (M.  $\frac{1}{8}$  to M.  $\frac{1}{2}$  of the former series). I suppose it would have been perfectly possible to have arrested the myopia at any time during this period; in the outset, indeed, to have prevented it altogether. If the present use of the eyes be persisted in, the preparation for college completed, and



college itself passed through, the chances are that the myopia will go on increasing, and possibly an amount of structural change be brought about incompatible with the integrity of the eye through life.]

Boston, February 28, 1877.

## RECENT PROGRESS IN THERAPEUTICS.<sup>1</sup>

BY ROBERT AMORY, M. D.

*Croton-Chloral Hydrate; its Physiological Action and its Use in Neuralgia.* — Von Mering,<sup>2</sup> in a communication on the action of this drug, opposes Liebreich's theory, namely, that the alkaline character of the blood decomposes the salt into dichlorallylen, hydrochloric, and formic acids, and that the action on the organism is due to the presence of dichlorallylen in the blood. His objection to Liebreich's theory is based on the facts (1) that the trichlorcrotonate of soda will very readily in dilute alkaline solutions (even if cold) decompose into dichlorallylen, and (2) that the administration of the trichlorcrotonate of soda, even in a dose of five grammes (seventy-seven grains), produces no apparent effect on rabbits. Von Mering states, also, that the administration of both croton-chloral hydrate and chloral hydrate, even in the dose of .06 gramme (one grain), is followed by less frequent respiratory movements before reflex response to irritation of the cornea has ceased; the hypodermic administration of either drug produces a temporary fall of blood pressure in dogs, cats, or rabbits, whilst administration of large doses is followed by a constant low blood pressure. His experiments show, apparently, that chloroform, chloral hydrate, and croton-chloral hydrate enfeeble the arterial tonus, though the activity of cardiac pulsation still continues. This latter observation is derived from the co-existence of a continuous low blood pressure with great oscillations of the pressure curve. He concludes that all three drugs have a similar action on the circulation.

Dr. Skerritt<sup>3</sup> premises, from the fact that croton-chloral hydrate contains two more hydrogen equivalents than was originally supposed, that this substance is really butyl-chloral. This in small doses is an anæsthetic, in large doses a hypnotic. Its anæsthetic influences begin at the head and gradually extend to the whole body. He states, also, that the administration of large doses is followed by a slowness in frequency of the respiratory movements and pulse rate, that a fatal result is caused by arrest of respiratory movements rather than by cardiac paralysis; on the contrary, death after the ingestion of chloral hydrate is caused by cardiac paralysis. His explanation of the action of these two drugs

Concluded from page 315.

<sup>2</sup> Archiv für experiment. Pathologie und Pharm., iii. 185.

<sup>3</sup> Lancet, December 9, 1876.

seems to be founded on Liebreich's researches, which, as may be observed above, are now opposed by Von Mering. Dr. Skerritt's clinical experience with croton-chloral hydrate in one hundred and twenty hospital cases at Bristol shows its great practical value in neuralgias of the fifth nerve. Those cases in which it proved most satisfactory were observed in young persons, especially anæmic women and girls. Eighty-six per cent. of the latter were either relieved or cured, whilst in older women this proportion was much smaller (fifty or sixty per cent.). Cases complicated with hysterical symptoms did not result so favorably. The special advantage of this drug consists in palliation of the pain until the condition of the general system shall improve; for instance, when tonic remedies have relieved the general anæmia and yet the headache still persists, croton-chloral hydrate abates this last distressing symptom.

A careful review of Dr. Skerritt's clinical experience compared with Von Mering's researches naturally suggests that the palliation of the headache is probably due to the property which the latter ascribes to croton-chloral hydrate, namely, sedative action on the vaso-motor apparatus, which may be due to the reduction of arterial tonus, or diminution of blood pressure in the arteries. In other words, it acts by inhibition of the vaso-motor centres.

*Lactic Acid as a Hypnotic.*<sup>1</sup>—E. Mendell, at a meeting of the Medical Society of Berlin, read a communication on the use of lactic acid to cause sleep. Its administration by the mouth, either in the form of lactic acid or lactate of soda, was uncertain, but he has met with great success by the use in enemata. Equal quantity of lactic acid and lactate of soda (five to twenty grammes, or seventy-seven to three hundred and eight grains) produced very efficient results. He advised its use in that form of insomnia which occurs during convalescence from debilitating disease, after hæmorrhages, or in insanity, etc. At a subsequent meeting of the above society, Senator remarked that he had given during the day ten grammes (one hundred and fifty-five grains) in divided doses, and five grammes (seventy-seven grains) in a single dose; he had observed that great weariness followed the continued administration, but that it was absent after the single dose; he had, moreover, observed an after-effect which had not been mentioned by either Meyer or Mendell, namely, the occurrence of rheumatic pains.

*Hyoscyamine as a Hypnotic.*—Mr. Robert Dawson,<sup>2</sup> in continuation of his researches on the physiological action of the active principle of hyoscyamus, contributes a paper on the therapeutical action of hyoscyamine on man. Following out the results of his observation<sup>3</sup> that this

<sup>1</sup> In the Fifth Report of the West Riding Lunatic Asylum.

<sup>2</sup> From the London Medical Record.

<sup>3</sup> Practitioner, July, 1876.

drug causes a subdued form of mania, associated with almost complete paralysis of the voluntary muscles, Mr. Dawson applied its use to certain patients who were maniacal and violent. He supposed that the quieter form of mania might be substituted for the very excitable cases, and that this effect in its turn would disappear, and leave the patient in a state of quiescence. One of these violent maniacs, addicted to self-mutilation, after a month's stay (on a second admission to the hospital) was given a grain and a half (0.097 gramme) at 3.53 P. M. The pupils at that time measured one eighth of an inch in diameter, and the pulse was 87. At four P. M., though the patient was still talking incoherently and incessantly, the pupils became somewhat dilated; at 4.15 P. M. the pulse was reduced to 72. At 4.20 his pulse was 88, and on account of hypermetropia he could not read, and could only walk staggeringly. At 4.30 the pulse was 106, and he became quiet. When asked to put out his tongue he did so, and fell asleep without retracting it. At 5.30 his pulse was 114, and he was fast asleep, his skin dry, and pupils fully dilated. The respirations were 18, heavy and snoring. At midnight the pulse was 87. The next morning he was very subdued, and after that his recovery progressed from day to day, and in less than two months from the single dose of hyoseyamine, and after a period of complete sanity, he was discharged from the hospital. The attack of insanity had lasted two years before the administration of the drug, and convalescence was traceable to the day after the establishment of the physiological action of the drug. He had no other medicine whatever. Other cases illustrative of the therapeutical action are given. From these cases Mr. Dawson observed that the potency and permanency of the action of individual doses of this drug are unequaled by any other. He says, "In about fifteen minutes the most violent and excited patient can be thrown into a comparatively deep sleep by about one grain of the amorphous alkaloid, and on wakening from his slumber almost invariably frees himself also from the delusions and hallucinations which have bewildered him; and I can adduce numerous instances in which this recovery, rapid as it has been in its accession, has also been thorough and enduring." One disadvantage of this remedy would appear to lie in the fact that the dose required to combat the extreme excitement would cause danger to a person who has been reduced by fury, starvation, and loss of sleep; and caution should be exercised to prevent a patient, who is partially under the paralyzing and hypermetropic influences of this drug, from injury and bruises liable to occur from contact with hard substances.

The use of hyoseyamine in certain forms of senile dementia, excepting those in which it is contra-indicated from reasons above mentioned, caused a decided arrest of excitement. Mr. Dawson cautions against the giving of an insufficient dose, say half a grain, as this latter dose

would produce cerebral excitement without complete motor paralysis, and this effect will continue through the whole period of the operation of the medicine. Though he gave three grains with impunity, yet one grain never failed to put a speedy termination to the most violent excitement. The following is the form in which hyoseyamine is administered:—

R̄	Hyoseyamine . . . . .	gr. j. or 0.064 gramme.
	Spt. etheris . . . . .	minims viij.
	Alcoholis . . . . .	minims xxiv.
	Aq. font. . . . .	ad ʒj. 29. c.c.
M. ut fiat haustus.		

Mr. Dawson concludes his paper by suggesting the use of this remedy in gonorrhœa, spasmodic stricture of the urethra (in which he has seen benefit from it), in colliquative sweatings, etc.

*Anhidrotics.*—Dr. Fothergill<sup>1</sup> applies this term (*hidrosis*, excessive sweating, and *a*, privative) to those agents which check profuse perspiration. He writes that profuse perspiration promotes tissue waste or destructive metamorphosis, and hence it is very desirable to bring to the aid of all wasting disease therapeutic agents which he names anhidrotics. When water assumes a gaseous form latent heat is used up and cold is produced. In severe exercise the body's surface becomes warm, perspiration is secreted, and its evaporation produces a restoration of the normal temperature. In cold weather, on the contrary, the skin is dry, sweating does not occur, and the normal temperature is maintained. Again, the surface heat of the body in a febrile state does not produce perspiration, and when in the latter case the sudoriparous glands become active the temperature of the surface falls. Moreover, nitrogenized substances and the saline constituents are eliminated by perspiration.

In view of these facts, when there exists a tendency to exhaustion or a debilitated condition, profuse perspirations drain the system and increase the debility. If in these conditions the excessive perspiration can be checked, the loss of the "body income" will be diminished and food assimilation will be assisted.

The anhidrotics may be divided into two classes, those used externally and those used internally. Among external anhidrotics are the mineral and vegetable acids, and heat applied by means of hot water. Among internal anhidrotics are dilute phosphoric acid; other acids; astringents, such as sulphate of copper, acetate of lead, tannin, or gallic acid; oxides, as of silver or zinc; tonics, as quinine; and some members of the solanaceæ, as belladonna and hyoseyamus. We do not yet know how the astringents act, but we do know that their effects are caused neither by coagulating albumen nor by contraction of circular muscular fibre.

<sup>1</sup> Practitioner, December, 1876.

The following are efficient combinations in the administration of anhidrotics: dilute sulphuric acid in a solution of sulphate of magnesia; sulphate of copper combined with opium where the phthisical cough prevents sleep. These two latter may conveniently be combined in pill form with pilulæ aloes et myrrhæ, in order to keep up the action of the bowels.

Tannin and gallic acid are not usually given alone, but are combined with mineral astringents and acids. Thus:—

R̄ Magnesiæ sulph.	3j. or 1/295 grammes.
Acidi phosphorici dil.	minims xx.
Infus. rhataniæ.	3j. or 31/11 grammes. M.

S. To be given three times a day in the different forms of phthisis.

The latter prescription may be used in the day-time, and the copper and opium pill at bed-time. Ringer advocates the combination of quinine, sulphate of zinc, and sulphuric acid at bed-time.

Oxide of zinc is very effective when combined with hyoseyamus, and controls the exhausting night sweats quite efficiently. The union of these two anhidrotics is more certain than either one alone.

Dr. Fothergill finds that belladonna is the most potent of all anhidrotics. He mentions the fact that Dr. Ringer was the first to point out this property of belladonna. Dr. Fothergill claims for belladonna the same efficiency in checking the exhausting night sweats of phthisis as for digitalis in giving tone to the heart. Though neither of these agents are as potent in the last and final stage of the disease, yet the action of each in the early stages is very pronounced. The method of using belladonna as an anhidrotic is by the hypodermic injection of its alkaloid, atropia (according to Dr. Ringer), in doses varying from one one hundredth to one two hundredths of a grain (.00068 gramme); Dr. Fothergill, however, uses one seventy-fifth to one twenty-fifth of a grain by the mouth; when one seventy-fifth is ineffective he prescribes one fiftieth; if, the next week, that has failed, one twenty-fifth is ordered. This usually produces the desired effect, after which smaller doses will maintain it. His experience, though at present limited, leads him to say that belladonna or atropine in hidrosis may be freely used without apprehensions as to the appearance of any serious toxic effects. Belladonna is an agent which produces marked toxic effects, such as dryness of the throat and a little indistinctness of vision, long before a fatal dose is reached, and is not a treacherous drug by any means. Twenty to thirty-five minims of the tincture of belladonna of the British Pharmacopœia,<sup>1</sup> corresponding to from eight to fourteen minims of the offic-

<sup>1</sup> In the United States Pharmacopœia tincture of belladonna is in the proportion of one part of the root and seven and three fourths of spirit; in the British Pharmacopœia the proportion is one part in twenty; consequently, our United States tincture is two and a half times stronger than the British tincture.

inal United States Pharmacopœia tincture, are quite safe doses. The atropine may be given in pill, while the tincture is best combined with fifteen minims of dilute phosphoric or sulphuric acid, and may be taken at bed-time, or when the patient awakens at about two or three in the morning. In those cases where a slowly spreading caseous pneumonia involves one lung to the third, fourth, or fifth rib, with a fast pulse, a temperature over 100° Fahr., cough, profuse night sweats, and rapid wasting of the flesh, the action of anhidrotics has the most promising effect. This, combined with tonic and other remedies, at once inaugurates an improvement which without the anhidrotic fails to appear.

*On the Cholagogue Action of Euonymin, Sanguinarin, Iridin, Lep-tandrin, Ipecacuan, Colocynth, and Jalap.* — Professor Rutherford and M. Vignal, in continuation of their experiments on the biliary secretion of the dog,<sup>1</sup> report<sup>2</sup> that euonymin, the active principle of the bark euonymus atropurpureus, which is given by the American eclectic practitioners as a mild aperient in doses of one to two grains, though "the substance they use is very complex, only a portion of it consisting of the active principle," produces active purgation without griping. Professor Rutherford used in his experiments an impure resin prepared by precipitating the tincture of euonymin with water acidulated with hydrochloric acid. The result apparently shows that five grains of this resin powerfully stimulated the liver and increased the intestinal secretion; probably, also, the purgative effect of this drug is chiefly due to increased flow of the bile. "At any rate these experiments clearly show that this substance is worthy of receiving far greater attention in practical medicine than it has done hitherto."

Sanguinarin is also given by American eclectics in doses of one fourth of a grain to a grain (0.013 to 0.065 gramme) as a hepatic alterative. This resin was prepared in a manner similar to that of euonymin, and, when mixed with bile and placed in the duodenum, powerfully stimulated the liver. Though the bile secreted was more dilute after the above stimulation, yet more biliary matter was secreted in a given time. The secretion of the intestinal glands was slightly increased by these doses. For the clinical effects of the drug the reader is referred to the statements of Tully and Mothershead.

Iridin, from iris versicolor, or American blue flag, is usually given in doses of from one to five grains (0.065 to 0.325 gramme), and in its action has been supposed to unite cholagogue and diuretic with aperient properties. An anonymous writer in the *Lancet*<sup>3</sup> states that "it is gentler in its action than podophyllin, and more reliable when a slight cholagogue action is required for a lengthened period." This oleo-resin,

<sup>1</sup> Vide previous report in the JOURNAL for March 16, 1876.

<sup>2</sup> Journal of Anatomy and Physiology, October, 1876.

<sup>3</sup> August 30, 1872.

when mixed with a little bile and water and placed in the duodenum, very powerfully stimulated the liver. It is not as powerful as large doses (four grains or 0|260 gramme) of podophyllin, but it is more powerful than euonymin. It is also a decided stimulant of the intestinal glands, and does not irritate the intestinal mucous membrane so decidedly as "podophyllin," while the purgative effects are greater than euonymin.

Leptandrin, from leptandra Virginica or veronica Virginica, is a remedy also much lauded as a cholagogue and tonic by the eclectics. The dose for a man is one half a grain to three grains (0|032 to 0|195 gramme) three or four times daily. Unless the biliary solvent was present, Professor Rutherford found that this resin produced scarcely any appreciable effect.

Ipecacuan. Sixty grains of this drug were mixed with a small quantity of bile, and when placed in the duodenum this mixture powerfully stimulated the liver. Even three grains in a small dog produced very marked effect on the biliary secretion. "The bile secreted under its influence was of normal composition as regards the biliary matter proper." Though no purgation followed its administration, the secretion of mucus from the small intestine was increased. "The increased biliary flow . . . could not be ascribed to any relaxation of 'spasm of the bile ducts,' for that no such thing existed was clearly shown by the free flow of the bile before the substance was given. Nor could it be owing to contraction of the gall-bladder, for the cystic duct was clamped. The result of these experiments will therefore lead to new speculations regarding the pathology of dysentery;" for it is well known to the profession how valuable this drug has become in the treatment of dysentery and that form of diarrhœa which is associated with catarrhal inflammation of the intestinal canal.

Colocynth appeared to stimulate the flow of bile, though the fluid secreted contained more water than is found in normal bile. This drug appeared, also, to stimulate the intestinal glands.

The action of jalap on the liver seems analogous to that of colocynth, though its effect on the intestinal glands was not so marked. It, however, produced watery dejections.

These experiments illustrate quite clearly that catharsis may exist as a concomitant of increased biliary flow, and that biliary flow may occur without catharsis; when, however, the intestinal mucous membrane is irritated, the flow of bile is usually increased.

This investigation of Professor Rutherford is not yet completed, and we shall hope that his future generalizations may be of great value in clinical medicine.

*Analysis of Dr. Ridge's Food.* — The following analysis appeared in the *Medical Examiner*, November 2, 1876: —

Moisture . . . . .	9.31
Oil (fat) . . . . .	.92
Nitrogenous (or flesh-forming) matter . . . . .	5.25
Starch, sugar, and digestible fibre . . . . .	83.63
Cellulose . . . . .	traces.
Ash . . . . .	.89
	<hr/> 100.00

### THE PUBLIC HEALTH OF PHILADELPHIA IN 1875.

THE opening sentences of this report<sup>1</sup> give evidence of the great, indeed the almost paramount importance which, in the opinion of the Philadelphia Board of Health, attaches to the registration of deaths as a part of sanitary work, and as affording a means of determining the condition of the public health. In common with all other American cities of considerable size, Boston alone excepted, Philadelphia has made the registration of vital statistics a department of sanitary administration, placing this work where it naturally belongs, and in such relations that its gathered facts may be of instant and practical use. Placed subordinate to the local board of health, as is the general custom in this country, the office of registrar is immediately available for promoting the public welfare to an extent far beyond what is practicable with the registry of vital statistics upon an independent basis. We are glad to see this matter so fully recognized in Philadelphia.

The annual death-rate of the city in 1875 was 22.24; this is in excess of its recent death-rates, and is accounted for by the unusual prevalence of certain zymotic diseases, notably scarlet fever, diphtheria, and croup. The comparatively low death-rate of Philadelphia is a subject that has repeatedly attracted attention and provoked discussion; there are those who accept the published rate as a truthful indication of the salubrity of the city of homesteads; there are others who insist vigorously that there is a gross error somewhere, and that either the estimate of the population is larger or the number of recorded deaths is smaller than the actual. The report before us shows many signs of care and thoroughness in analyzing and arranging the material supplied by the registration bureau; its tables are elaborate, its charts are models of beauty and clearness, and its editorial comments are comprehensive. But we find two or three expressions that seem to give color to the suspicion that some of the primary data of births, marriages, and deaths do not find their way to the office of record; we infer that the defect is to be charged to the public sentiment and to a certain laxity of law rather than to inefficiency on the part of the registration officers.

The report contains a full description of the extensive stock-yards and abattoir in West Philadelphia. It will be remembered that the establishment of these in the midst of the city, on the banks of the Schuylkill River, met with much opposition in 1875; the influential Pennsylvania railroad company won the day, however, and the immense public slaughter-house and its appendages, covering an area of twenty-three acres, are now on trial. All the modern appliances appear to have been introduced to render the business of

<sup>1</sup> *Report of the Board of Health of the City and Port of Philadelphia for the Year 1875.*



slaughtering as innoxious as possible. It must be reassuring to the Philadelphians that it is the opinion of their board of health, "founded upon an attentive consideration of the subject that the management of the abattoir can be conducted in a manner free from offense, and without causing any nuisance whatsoever."

We have heard the surface drainage of Philadelphia defended as a much better system of disposing of house slops than any plan of under-ground drainage yet devised, and as one element, indeed, in determining the low death-rate of the city. Centennial visitors to Philadelphia from well-sewered cities will nevertheless be inclined to sustain, from their own observations, the following remark in this report: "Surface drainage is a frequent cause of nuisances upon the streets. In winter the water discharged into the gutters on the sidewalks and in the streets forms ice, which, in protracted periods of very cold weather, fills the gutters and covers the sidewalks, presenting a dangerous surface to walk upon. In the summer season it is frequently the cause of filthy and offensive gutters."

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### MODERN THERAPEUTICS.<sup>1</sup>

THE fourth edition of this popular work calls for little additional comment. It has been greatly enlarged, compilations of the late Dr. Napheys having been added by Dr. Brinton, who has also endeavored to supply some of the work left incomplete by the author. That the book contains a vast number of formulas and prescriptions with directions for use is about all that can be said of it.

We can hardly refrain from criticising the title in its application to a work illustrative of empirical rather than scientific triumph. We might add that the labors in physiological research of many a hard student do not merit the sneer implied in the sentence, "Nihilism in therapeutics . . . comes from a pursuit of that *ignis fatuus*, physiological therapeutics." In point of fact some of the indications for treatment are borrowed by the author from such researches; as, for instance, Dr. Fraser's investigations on calabar bean.

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### THE SANITARY INSPECTION OF PUBLIC SCHOOLS.

WE have watched with much interest the measures taken by our city school board with reference to the appointment of a medical inspector for the public schools, and we confess a feeling of disappointment that so little fruit has developed as yet in fulfillment of the project. In our view, the arguments in favor of systematic medical superintendence of the schools of a great city are convincing; and our hope has been that the city of Boston would set an early and positive example in this as in other good municipal works. At a hearing before a committee of the school board of this city, held a few weeks ago, the

<sup>1</sup> *Modern Therapeutics. A Compendium of Recent Formulae, Approved Treatment and Specific Methods in Medicine and Surgery.* By GEORGE H. NAPHEYS, A. M., M. D., etc. Fourth Edition, rewritten and enlarged. Philadelphia: D. G. Brinton. 1877.

evidence brought forward by medical men and others, expert in matters pertaining to school hygiene, was conclusive that the proper administration of our public-school system needs imperatively the adjunct of sanitary supervision. This evidence has been published, and we commend it cordially to the study of all who have an interest in our public schools, and especially to the attention of intelligent parents, who surely ought to feel some solicitude concerning the physical as well as the mental training of their children at school. If, after examining the arguments presented in this pamphlet, the reader is in doubt concerning the expediency of the innovation there advocated, let him apply the testimony of his own special senses, and by a personal inspection of some of the school rooms described in the third annual report of the city board of health, let him test the observations which have been made with such unanimity with regard to the lighting, heating, ventilating, and general sanitary care of these places. Fully convinced of the need which exists for the appointment of a properly trained medical school inspector, who shall give his entire attention to the various duties which his office would impose, we trust the subject will not be permitted to pass out of sight in the councils of our reorganized school board.



## TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

A PERUSAL of the twenty-seventh annual report of the association shows that the work accomplished at Philadelphia last spring, although in some respects bearing results of value and interest, was nevertheless not quite equal to what might have been expected with a less dangerous rival in the field than the great exhibition. Perhaps the most striking features of these reports, certainly of the present one, is not so much the value of the individual papers as the completeness of the record of the discussions held in the various sections. Such a record is well-nigh indispensable for a correct appreciation of the work done at the meeting, and is none the less instructive for its somewhat off-hand style, partaking more of the character of a newspaper report than a carefully prepared literary production. The papers which have been published by the association are striking chiefly for the absence of any great amount of original thought. We must not forget, however, the disadvantages under which the meeting labored, and that the fruit of the year's work was divided between this and the International Congress, the report of which we are looking forward to with great interest. Among the more prominent papers may be mentioned that of Dr. Woodward delivered before the section of medical jurisprudence on the application of photography to micrometry with special reference to criminal cases. The discussion which followed and was participated in by Drs. Richardson, Woodward, and others was quite animated. The importance of a thorough appreciation of the merits of this question has been frequently exemplified in this neighborhood, and particularly in the trial lately held in New Hampshire, where Dr. Richardson was a prominent witness. Dr. Sayre succeeded in producing a popular communication on Pott's disease, which subject is amply illustrated in the text of the report, enabling those who desire

to emulate his skill in the application of the plaster-of-Paris bandage an excellent opportunity to make themselves acquainted with his method. Dr. Hewson's paper on Pirogoff's amputation displays an amount of enthusiasm which we hardly think this operation merits, although a more careful adherence to the rules laid down by the writer might make this operation a more popular one than it is at present.

The increased attention given to the study of state medicine and public hygiene is beginning to make itself felt throughout the country, and these subjects take up a considerable space in the volume. We have already alluded to the address of the president, Dr. Marion Sims. In view of the work done last spring and autumn by the profession we have reason to look forward hopefully to the meeting at Chicago, now so near at hand. We might add that it seems a matter of regret that the report of one year should not be placed before the members of the profession until they are already engrossed with the work which is to be displayed at the following meeting.

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#### MEDICAL NOTES.

— It is announced that the position of serjeant-surgeon to the queen, the highest medical honor in the gift of the British Empire, which was made vacant by the recent death of Sir William Fergusson, Bart., has been conferred upon Sir James Paget. The position of serjeant-surgeon extraordinary to the queen has been given to Mr. Prescott G. Hewett, president of the Royal College of Surgeons, while Mr. J. E. Erichsen, a member of the Council and Court of Examiners of the Royal College, has been appointed surgeon-extraordinary to her majesty.

— In a paper on mental anxiety as a cause of granular kidney, Dr. T. Clifford Allbutt reports to the *British Medical Journal* of February 10, 1877, that during the last two years he has made notes of thirty-five cases of granular kidney occurring in private practice, and finds a marked history of mental distress or care, or both, in twenty-four of them. As a result of these causes he finds that granular kidney follows more frequently than degeneration of the brain or spinal cord, and far more frequently than primary failure of the heart's muscle.

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#### MASSACHUSETTS GENERAL HOSPITAL.

##### SURGICAL CASES OF DR. CABOT.

[REPORTED BY C. W. COOPER.]

*Lithotomy.* — The patient, a boy, twelve years of age, entered the hospital January 9th. For a year he had been suffering from symptoms of trouble in the bladder, but at no time had these symptoms been urgent in character. They consisted of occasional pain in the penis after micturition, occasional sudden interruption of the flow of urine, pain in the region of the bladder on running or jumping, and abnormal frequency of micturition. Upon the introduction of a sound, the instrument came at once upon what was apparently a

hard, small stone. On January 13th, lateral lithotomy was performed. A curved lithotomy staff having been introduced into the bladder was held firmly in the median line, well drawn up against the symphysis pubis to lift the bulb as far as possible out of danger. An incision three inches long was then made downwards and outwards from a point on the median line, an inch and a half above the rectum. This incision was carried down through the tissues, and the staff laid bare through the membranous portion of the urethra.

The blade of the knife, carefully adjusted in the groove on the surface of the staff, was passed along this groove, completing the deep section, cutting through the left lobe of the prostate, and opening the bladder. The stone was then removed with forceps, and found to be a mulberry calculus with a very rough surface, spherical in shape, about one inch in diameter. No vessels were tied. A *canule à chemise* was inserted, lint being packed about the tube.

Twenty hours after the operation everything was removed from the wound; no hæmorrhage followed; no dressing was applied, but attention was given to insure cleanliness of the parts. There was severe pain the first night, and pain continued to be a troublesome symptom for some time. With this exception the patient did well, and in seventeen days from the date of operation urine had ceased to pass through the wound. Nine days later the perineal wound had entirely healed; the boy was, however, confined to bed for a short time longer by a mild attack of orchitis which yielded to treatment, and on February 26th he was discharged, well.

*Incised Wound of Knee-Joint.* — W. K., aged seventeen, employed as boy in an engraver's establishment, while endeavoring to reach an elevator, slipped and fell into the open space below. Having a machine knife in his hand, he fell upon his left side with the knife beneath him. He was brought to the hospital half an hour after the accident, and there was found to be an incised wound two inches long, inside and above the inner border of the patella of the left knee. A finger was passed without difficulty into the joint, by which the lower surface of the patella could be felt and the cut edge of the capsule of the joint clearly made out. A director was then passed down inside the capsule, and a fresh incision made at right angles to the original one, about two inches long, opening the joint to the bottom. The wound was then thoroughly washed with a solution of carbolic acid, one part to forty. One vessel only required ligature, which was tied with carbolized silk, the ends cut short. The flaps were united by the interrupted suture, carbolized silk being also used here.

Compresses saturated with carbolic wash, one part to eighty, were applied, and the leg firmly fixed by being placed upon a splint designed for cases of excision of the knee. After about twelve hours, during which time the dressing was kept saturated with fresh carbolic wash, Lister's antiseptic dressing was applied.

The next evening severe pain in the wound came on, associated with no inconsiderable constitutional disturbance, indicated by great restlessness, flushed skin, rapid pulse, and high temperature. In consequence the dressing was removed, and there was found to be swelling, with a blush about the wound, and considerable tension upon the sutures, the removal of which from the lower portion of the wound permitted the escape of decomposed blood and

pus; the whole amount evacuated on pressure measuring about one drachm and a half. The original dressing of compresses saturated in a solution of carbolic acid was then substituted for the Lister dressing, and a full opiate administered, after which the patient slept quietly the rest of the night. From that time the case progressed rapidly to recovery. For four days the discharge was quite free. On the fifth day the sutures remaining in the upper part of the wound were removed; the flaps gaped about three quarters of an inch at this point, but presented a floor of granulations with no apparent opening into the joint. Two days later the lower part of the wound also showed a flat, granulating surface with no apparent opening. That is to say, one week from the date of injury there remained as a result nothing more than a superficial wound, healing by granulation, with no pain in the knee, no swelling of the joint, in fact no evidence that the capsule had been opened by the accident. The healing process was completed a month later; the excision splint was then removed, the power of motion was found to exist in the joint, and the patient was discharged with the leg in the ham-splint, which he was advised to wear two or three weeks as a precautionary measure. The splint was returned in a few weeks with a report that the patient was walking about nearly as well as before the accident.

*Strangulated Hernia.* — CASE I. M. G., an Italian, entered the hospital December 26th. The patient had been aware for six months of the existence of a femoral hernia on the right side. The tumor was reported to have disappeared frequently during that time, only to reappear again in a week or two. For eight days before entrance there had been no passage from his bowels, and during the last four days he had suffered constantly from pain in the abdomen and attacks of vomiting; the matter vomited consisting at first of food, later, of an offensive yellow liquid. At the time of admission there was a tumor in the right inguinal region as large as a fist, resonant on percussion. The patient had a fecal breath, and vomited stercoraceous matter at frequent intervals. No pain, but tenderness over the region of the tumor. A diagnosis of strangulated femoral hernia having been made, taxis was at once employed. The characteristic gurgle of intestine returning to the abdominal cavity was heard, and after twenty minutes of taxis the tumor was reduced to about half its original size, and the resonance on percussion had disappeared. Taxis was continued for some time longer, but no additional progress was made. The patient was then left for some hours with an ice-bag applied to the tumor, with the hope that the symptoms of strangulation might subside after the partial reduction. Stercoraceous vomiting continued, however, and the symptoms had not abated in the least at the end of that time. Taxis under ether was then tried with no result. An incision was at once made four inches in length, directly over the tumor in a line from above downwards. In this incision all the soft parts were consecutively divided down to the sac; the sac was then perforated, elevated upon a director, and divided.

The hernia was found to consist of omentum, no intestine being present. Adhesions to the sac were broken up by the finger, the stricture divided with a herniotomy knife, and the mass returned to the abdomen. The flaps were united by the interrupted suture, and a sponge covered with compress bandaged

upon the wound. All vomiting ceased two hours after the operation. Brandy and beef tea were given in small quantities, and the patient kept under the influence of opiates for three days. The abdomen had been tympanitic, but on the fourth day there was no pain, no vomiting, and during the afternoon there was a spontaneous free evacuation of the bowels. From this time the man improved constantly, and in six weeks from the date of operation was discharged, well.

CASE II. P. D. entered the hospital January 23d. He reported having had a hernia on the right side for nine years, which descended into the scrotum four years after its first appearance, and remained there. Four days before entrance he received a blow in the abdomen, from which the pain was so severe as to render him helpless. Vomiting soon came on, and he continued to vomit at intervals up to the time of admission; there was also persistent constipation. He observed after the accident that the tumor in the scrotum had increased in size, and it soon became red and tender.

Examination revealed a tumor in the right side of the scrotum as large as two fists, red, tender, resonant on percussion; no impulse was communicated on coughing; abdomen somewhat swollen and tender. The patient was at once etherized, and taxis tried for an hour with apparently no effect, after which the hernia was aspirated, and a small amount of serum and gas withdrawn. Taxis was again employed, and a certain amount of intestine evidently returned to the abdominal cavity. By this the tumor was but little diminished in size, yet no further interference was thought advisable until by observation the question whether the symptoms would persist or not should be settled. The patient was placed in bed, and cold compresses applied to the tumor.

There was no vomiting that night and no distressing pain. The next afternoon stercoraceous vomiting began, and in consequence herniotomy was determined upon. An incision was made over the tumor about four inches in length, going down to the sac; the sac was then divided upon a director and the contents exposed. A mass of omentum was found in front, with a loop of intestine six or seven inches long forming the posterior part of the hernia. The bowel was flaccid and of a dark-brown color, evidently gangrenous. There were adhesions posteriorly. The constricting band was divided. The intestine was left *in situ*, while a considerable portion of the omentum was cut away. Several vessels were tied, and the upper part of the wound brought together with sutures, and a dressing of compresses saturated with a solution of carbolic acid, one part to eighty, applied. Vomiting continued at intervals through the evening, although the patient was able to retain some brandy and beef tea. The next day he was very weak, with feeble pulse and distressing abdominal pain. As no food was retained by the stomach, enemata of one ounce of brandy and two drachms of Valentine's extract of beef were given every three hours. At five o'clock the next morning perforation of the bowel took place, with escape of feces. Soft compresses wrung out of hot water were now applied, and changed every five minutes, while the enemata were given every two hours.

He continued to grow weaker, though on the evening of the next day he was able to retain milk punch given by the mouth in small quantities. Dur-

ing the night progressive prostration, hiccough, and coldness of the surface showed progress toward a fatal termination, and on the next day, the fourth from the date of herniotomy, the patient died.

### LETTER FROM ZURICH.

MESSRS. EDITORS, — Children's diseases make so large a percentage of the practice of the average physician, that I have translated with this idea — not verbatim — the first hour of a course of lectures by Dr. Horner, professor of ophthalmology in the University of Zurich, on the Eye Diseases of Children. This hour began his lecture course for the winter semester. Horner is known more in America as a clinical teacher than as a writer. These lectures, however, are to go to press, and will probably appear towards the end of the current year. The author is one of the most sensible, clear clinical teachers in ophthalmology; free from skepticism, from dogmatism in any special ophthalmological school, practical, in the good sense of the word, he needs no preface in the eyes of his confrères and students, and no further introduction to the general profession in America. He is at the same time a specialist.

Of 20,760 eye patients in Horner's clinic 5390 were children, or more than twenty per cent. Cohn, of Breslau, up to 1873 had examined 111,199 children with all forms of external diseases of the bulb and appendages, of anomaly of refraction and accommodation, of diseases of the optic nerve, intra-ocular layers, and of the orbit, with special reference to ætiology. His figures are to be relied on, though Horner's statistics differ somewhat from Cohn's. Horner's figures are made from a *poliklinik*, where retinal and optic nerve cases, results of meningitis, tuberculosis, scarlatina, etc., are least likely to appear, such patients going to a hospital.

Tabulated, the list is as follows : —

Diseases of	Children.	Adults.
Cornea.....	27.2	20
Conjunctiva.....	21.7	29
Refraction and accommodation.....	20.6	11
Lids.....	10.1	10
Muscles and nerves.....	9.9	3.4
Iris and choroidea.....	2.8	6.8
Lens.....	2	5.6
Lachrymal apparatus.....	1.6	2.5
Retina and opticus.....	1.4	4.4
Bulb and orbit.....	1.42	2.9
Sclera.....	0.5	
Corpus vitreum.....	0.38	0.5

The following deductions may be made from this table : —

(1.) Diseases of the cornea, conjunctiva, lids, muscles, and nerves, and refraction and accommodation anomalies represent nearly the whole field of eye diseases of children.

(2.) Diseases of the cornea and conjunctiva make nearly one half of the whole category.

(3.) The large ratio of anomalies of refraction and accommodation, namely,

20.6 in children against eleven in adults, is attributed to the frequent occurrence of myopia in Swiss children. Wells's figures for England are much smaller for both children and adults.

(4.) The ratio of diseases of muscles and nerves is high from the same fact as alluded to in regard to myopia in Switzerland.

(5.) Iritis and choroidal troubles play a small part in diseases of children.

*Diseases of the Lids.* — The gross anatomy of the lids was given according to Waldeyer's plate,<sup>1</sup> particular emphasis being laid upon the clinical significance of the anatomical arrangement of the conjunctiva into conjunctiva bulbi, conjunctiva tarsi, and fornix conjunctivæ. The tarsus is not a proper cartilage, but is thickened, hypertrophied connective tissue, or, to literally translate Waldeyer, is a peculiarly modified subconjunctival tissue, and belongs to the conjunctival portion of the lid. The Meibomian glands are not dissimilar to the sebaceous glands of the skin; they are really organs of the skin, and not special to the lids. Sometimes the mouth of a Meibomian gland lies between two bundles of a muscle, known as the ciliary muscle of Riolan. Whether the anatomical position — an occasional one, not constant — has anything to do with control over the escape of the *sebum palpebrale*, or whether the epithelium of the excretory duct has a *membrana propria*, is not evident to Waldeyer. As to the skin of the lid, it is a fair clinical question to raise, whether we find its diseases different from those of the skin elsewhere. Horner regards it as a serious error that works on ophthalmology give different names to the skin diseases of the lids from those on dermatology. Skin diseases of the lids apply to ophthalmology only so far as they may lead to diseases of the bulb. Horner began with Hebra's classification of diseases of the skin, namely, anomalies of secretion. Seborrhœa, a disease of the fat glands of the lid, first claimed his attention. Each lid has about one hundred and fifty cilia arranged in two rows, sometimes in three. Each cilium has four to six glands, so that from six to nine hundred fat glands open on the free border of each lid; these are Donders's figures. As a rule these glands are at the base of the cilia. Obviously an immense secreting surface is here exposed, which in children plays its highest physiological and pathological part; towards middle life and in old age the secretion is less abundant. Seborrhœa may be of a fluid or dry character. When it is fluid the skin of the face is implicated. Its objective symptoms are a thickened tarsal edge, cilia not long, and with a loss of the normal handsome curve; the length of the cilia in upper lid is about twelve m. m.; edge of lid looks as if covered with dust, but is really smeared with a secretion resembling golden fat or sometimes thin cream. Seborrhœa sicca is a modified form of the other. Dermatologists name it pityriasis simplex, and it often is concomitant with the same affection of the eyebrows and hairy scalp. When scratched away, the thick layer of the lid border is exposed to view and is often red and shiny, the picture of blepharo-adenitis; when lasting a long time the beauty of the cilia suffers, and they are reduced in number, an alopecia furfuracea. The subjective symptoms are local heat, with a sense of stimulation. The principal causes of dry seborrhœa are warm rays of artificial light falling directly upon the eye, particularly when the person is engaged in read-

<sup>1</sup> Handbuch d. gesamt. Augenheilkunde, 1 Bd., 1 Th., page 234.



ing; exposure to moisture from an under-ground residence, and foul air loaded with tobacco smoke. The tendency is to rub the lids, and increase the redness and irritation. Disease is overcome spontaneously, especially after puberty, when the number and strength of the cilia is less, and their curvature is less pronounced. The lids remain reddish, and are always sensitive to stimulation. This condition disposes to peri-granular diseases, as trachoma, and may even assume a pustular form, as acne. *Seborrhœa sicca* is often found in females, and most frequently with menstruating girls; so common is this concomitance that it is worthy of remark. It is a hanger-on of the strumous diathesis, and often suggests the possibility of tuberculosis; as a local affection it may run over into *eczema chronica*.

It has been remarked that *seborrhœa* falls chiefly upon patients who are either myopic or hypermetropic. Horner has noticed it very largely with hypermetropia, is unable to account for the association farther than to suggest the possibility that the deep orbits often found in such patients and the short antero-posterior axis of the bulbs predispose to entropion and to lid affections in general. Arlt has found *seborrhœa* very frequently in flat-built faces. Horner called attention to the form of the face and the structure of the eye as elements worthy of investigation in connection with the ætiology of *seborrhœa*, and remarked that Professor Roosa read before the International Ophthalmological Congress in Philadelphia, last September, a paper on the Relations of *Blepharitis Ciliaris* to *Ametropia*.

At this point the hour closed.

In a future letter I propose to briefly note a few special cases occurring in Professor Horner's clinic, of peculiar interest to ophthalmologists.

Yours truly,

E. S. P.

ZURICH, SWITZERLAND, *January 15, 1877.*

## NEW INSTRUMENT,—THE OPIATOR.

MESSRS. EDITORS,—Messrs. Codman & Shurtleff have recently placed on general sale an instrument manufactured by them for administering with *accuracy* opiated and other small enemata per anum. It consists of a small glass syringe with a *metal* nozzle (*C*) of the full size of that of a large syringe for adults, which insures the deposit of the intended quantity quite above the sphincter. One cannot be certain of this with the ordinary nozzles of common small syringes. The nozzle of the new syringe is also bulb-shaped, and can thus be more readily passed; and, being of metal, is in no danger of being broken, as are those of glass or other brittle material, nor is it likely to wound the bowel. The glass barrel (*A*) enables the operator to *see* that the desired quantity has been taken up and carried to its destination, which cannot be done when the instrument is of metal or rubber. Any quantity from a drop to a fluid ounce can thus be given with *absolute certainty*. This is not exactly a new instrument, for it has been thoroughly tested in this neighborhood,—one practitioner, who vouches for its utility, having within a dozen years or so put into use several scores of them in his own private practice. Other

physicians have tried and found them reliable and exceedingly valuable. In dysentery, requiring frequent small enemata of starch water and laudanum, they are remarkably convenient. For the administration of a solution of morphine, in drop doses, per anum, as a substitute for subcutaneous injection, this instrument is equally effective. Alcoholic and other stimulant injections, per anum, can be readily given by it, and in all respects it will answer the purposes of an ordinary small or ear syringe. Every physician who has tried it has commended it, and any one on a single trial will recognize its usefulness. Every professed nurse should have one in her outfit.



The appended wood-cut, one third size, will give a good idea of the instrument. It is firmly made, nicely fitted in all its parts, screw capped, and nickel plated. The price is quite moderate. As a piece of workmanship it does credit to the manufacturers. They call it *the opiator*. X.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MARCH 10, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	526	25.39	27.46
Philadelphia	850,856	331	20.35	22.88
Brooklyn .	527,830	214	21.08	24.31
Chicago . .	420,000	136	16.84	20.41
Boston . .	363,940	114	16.27	23.39
Providence	103,000	33	16.66	18.34
Worcester .	52,977	33	32.39	22.00
Lowell . .	53,678	12	11.62	22.21
Cambridge	51,572	21	21.17	20.54
Fall River	50,370	17	17.53	22.04
Lawrence .	37,626	19	26.26	23.32
Lynn . .	33,524	12	18.61	21.37
Springfield .	32,976	6	9.46	19.69
Salem . .	26,739	11	21.39	23.57

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M. D., and William Pepper, A. M., M. D. Philadelphia: Lindsay and Blakiston. 1877. Pp. 1012. (For sale by A. Williams & Co.)

Hearing on the Appointment of a Medical Inspector for the Public Schools, November 23, 1876. Boston: Rand and Avery. 1877. Pp. 15.

Transactions of the New York Odontological Society. Regular Meetings, 1876.

Annual Catalogue of the Albany Medical College, Medical Department of Union University. 1877.

DR. BENJAMIN H. HARTWELL, of Ayer, Mass., Assistant Surgeon Tenth Regiment of Infantry, M. V. M., has been appointed an examining surgeon of the Pension Office.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## CONTRIBUTIONS FROM THE ARMY MEDICAL MUSEUM, WASHINGTON.

BY GEORGE A. OTIS, M. D.,

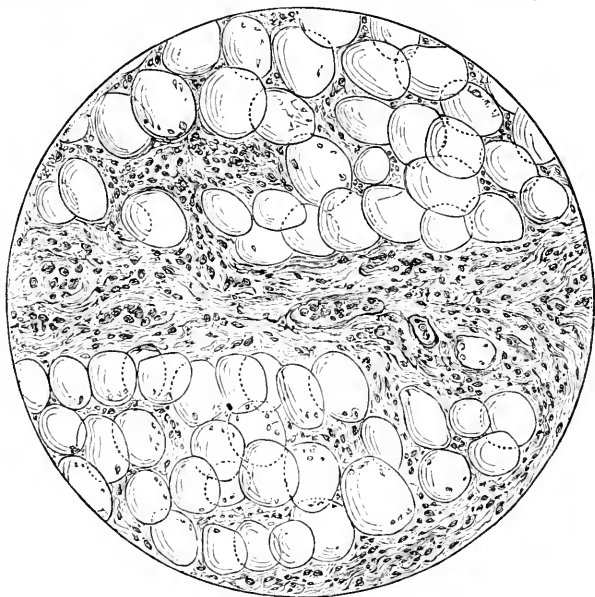
*Assistant Surgeon, United States Army.*

I CANNOT do better, perhaps, in response to your request, than improve the opportunity of beginning to acknowledge publicly some of the valuable pathological material for which the Army Medical Museum at Washington is indebted to practitioners unconnected with the army. The descriptions of such contributions are recorded in the manuscript registers of the museum, when the specimens are mounted and placed on the shelves, and eventually abstracts of them will appear in printed catalogues. But the last printed catalogue of the surgical section of the museum is already ten years old, and in this decade the number of surgical specimens has increased from 4719 to 6743. The more important donations of army medical officers are from time to time mentioned in official publications; but there is no convenient medium for calling public attention to the contributions of practitioners in civil life save the pages of medical journals. I will commence, if you please, with a single example, a contribution by Dr. J. P. McCombs, of Charlotte, North Carolina. In December, 1876, he showed to Surgeon W. H. Forwood, U. S. A., a preparation of a visceral extrusion, supposed to be a spleen, successfully removed by ligature from a negro youth who had been stabbed in the left hypochondriac region, and at Dr. Forwood's instance transmitted the preparation to Washington, with the following history:—

*"History of a Case of Complete Extrusion of the Spleen from an Incised Wound, with Ligation and Removal of the same, with Recovery. To accompany a Specimen forwarded to the Army Medical Museum.—*On October 7, 1874, I was called fourteen miles in the country to see Wallace Fox (colored), aged twenty-two, who was wounded with a pocket-knife in a fight at a camp-meeting on October 3d. On examination I found an incised wound about an inch long over the region of the spleen below the ribs, with the spleen entirely protruded, strangulated, and in a free state of suppuration over the entire surface. There was constipation and inability to retain anything on the stomach, and many symptoms of strangulation of the bowels. I applied a ligature around the spleen near the wound, and afterwards removed the spleen entire, drew out the omentum, relieved the strangulation, and found no disposition to hæmorrhage. I then carefully returned the omentum into the abdominal cavity, and closed the wound with two silk sutures and adhesive straps, and applied cold-

water dressing. I administered an opiate, with instructions to keep him quiet with opiates for three days, and then to give a dose of castor-oil. He was going about in four days, and came to Charlotte to see me ten days after the operation. He still had pain and tenderness over the region of the wound. He made a rapid recovery, and twenty-six months after the operation was a healthy man. He has never had a day's sickness since, and none of his organs are the least impaired."

There are numerous instances recorded in surgical annals of the successful enucleation or excision of visceral protrusions after incised wounds of the abdomen, in which the parts extruded were supposed to be a portion of one of the solid viscera, the spleen, liver, kidney, the pancreas even, when it was found on inspection that the tissue really removed was simply congested and inflamed omentum. Examples may be found in the writings of Schenckius,



1000ths.

Stalpart Van der Weil, Dr. Paul F. Eve, and most of the compilers of rare cases. In the foot-notes to the sixth chapter of the surgical volume of Part II. of the Medical and Surgical History of the War of the Rebellion, I have cited references to many such cases. The specimen forwarded to the museum by Dr. McCombs had been preserved in alcohol, and its external appearance closely resembled a spleen. It was of a mottled-purplish color, lobulated, with a peritoneal investment, and weighed a little less than three ounces. On making an incision into it, however, not a trace of fibrous elastic coat, or trabeculae, or Malpighian corpuscles was to be discovered. Several sections from different parts of the specimen were prepared for microscopic examination, and were nearly uniform in appearance. The preparer, Dr. J. C. McConnell, made a camera-lucida drawing of one of the slides, which is accurately reproduced in the wood-cut. My colleague, Surgeon J. J. Woodward, whose com-

petency is unquestioned, has had the kindness to furnish the following description of the section, which is numbered 7214 in the microscopical cabinet of the museum :—

“The specimen proved on examination to be a portion of omentum in an inflamed condition. Thin sections showed the characteristic large adipose cells grouped in lobules united together by connective tissue. Both the connective tissue between the lobules and the homogenous cementum between the individual adipose cells were infiltrated with numerous small granular cells (lymphoid elements, leucocytes), such as invade the tissues during the inflammatory process. The wood-cut represents portions of two adjoining fat lobules united by a rather broad lamina of connective tissue in which, as well as between the individual fat cells, the small granular cells are shown as they appeared in the specimen after hardening with alcohol.”

I sent a duplicate slide to Dr. McCombs, who, in a letter dated Charlotte, February 20, 1877, remarked : “When the tumor was removed it would have weighed six or seven ounces. It was preserved in a quinine bottle, in pure alcohol, which evaporated several times, leaving the tumor dry, which perhaps accounts for its weighing no more than it did. A small portion of omentum was removed with the tumor. There is no objection to your publishing the case, with any remarks you may see fit to make.” The tumor is preserved as specimen 6720, section I., in the Army Medical Museum.

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## TWO SUCCESSFUL CASES OF OVARIOTOMY.

BY GEORGE W. GAY, M. D.

*Surgeon to the Boston City Hospital.*

CASE I. On Saturday, October 30, 1875, Mrs. X., a widow, aged fifty-nine years, was brought to the writer by Dr. E. B. Harvey, of Westborough, for an abdominal enlargement of four years' duration. Her menses ceased five years ago. She had been a widow over twenty years, and had good health until the present trouble began.

Her abdomen was large, prominent, soft, and smooth. Fluctuation was distinct between points six inches on each side of the umbilicus, and from the pubes to the ensiform cartilage. Resonance was dull everywhere except on the left side and below the sternum. Umbilicus depressed; veins of abdomen not prominent. The abdomen was not tender, and she has never had much pain. The uterus was movable to a certain extent, and high up in the pelvis; no hæmorrhage, nor vaginal discharge of any kind. Her digestive organs were in good order, and her urine was alternately free and scanty. Although she was as large as a woman at full term of pregnancy, yet she could walk a mile easily, and was able to enjoy life. She was therefore advised to wait until her burden was heavier to bear before undertaking the risks of an operation.

The patient passed a comfortable winter among her friends, and came to Boston to a private house the last week in April, ready and anxious for radical measures.

She was considerably larger than in the autumn, being forty-five inches in circumference. The distance from the pubes to the ensiform cartilage was nineteen inches, and to the umbilicus ten inches. Two distinct cysts could be made out by palpation and percussion, the smaller one lying on the right side of the abdomen.

Dr. Cheever saw the patient, and agreed with me that the disease was ovarian; that there were at least two cysts; that there were probably few or no adhesions in front, and that it was a favorable case for operation. The patient was kept in bed a few days before the operation, partly to accustom her to the confinement, and partly to allay a slight cough.

Ovariectomy was performed on Thursday, May 4, 1876, Drs. Cheever, Thorndike, and Harvey assisting. The patient was hopeful, and got upon the table and took the ether very quietly. The larger cyst was exposed by an incision about five inches long, on the median line, emptied with a Wells trocar, and drawn out enough to expose the smaller cyst, which was treated in the same manner. The mass was then lifted from the abdominal cavity. There was no pedicle, but the base of the tumor was firmly adherent to the fundus of the uterus, and to the brim of the true pelvis on the right side as far as the sacro-iliac articulation. The line of attachment was fully eight inches in extent. An attempt was made to enucleate the sac, but as this gave rise to hæmorrhage, and, moreover, was attended with great difficulty, it was abandoned. A portion of the broad ligament was tied with a strong catgut ligature, and the ends cut short. Wells's largest clamp was then applied to the cyst as near the base as possible, and the tumor cut away, thereby leaving quite a large piece of the cyst-wall in the abdomen. The cysts contained thirty pints of the ordinary ovarian fluid.

Her pulse was 72 before and after the operation, but was weaker after it. She rallied well from the ether, and did not vomit. There was not much shock or pain.

She got nothing but small quantities of ice and toast water, and a suppository containing a grain and a half of opium every six hours for twenty-four hours, after which time she was gradually put upon beef tea, milk, champagne, and soda water. She was troubled considerably with tympanites, and had some cystitis, although the urine was drawn every four hours. The bowels moved in ten days, when the accumulation passed off by several copious stools, producing considerable prostration.

The clamp came away in eighteen days, leaving only the stump of the growth to heal over, as the abdominal wound healed by first intention. Nothing was ever seen of the catgut ligature. Suppuration was at no time profuse.

She went to her home in the country in less than eight weeks after

the operation, able to walk quite well. On a recent visit to the city the patient assured us that she never felt so well in all her life. She wears a bandage, but there is as yet no sign of a hernia in the track of the wound.

So far as we know, the application of a clamp to the base of an ovarian cyst which has no pedicle is not common. Several methods of securing the vessels in these cases present themselves to our notice, among which are the following:—

First, enucleation. This is practicable in some instances, but by no means in all.

Second, ligature. Catgut is the only ligature we should dare to leave shut up in the peritoneal cavity. Moreover, there is some danger of hæmorrhage between the sections inclosed in the ligature, as well as from the softening and slipping of the substance itself.

Third, actual cautery. Mr. Keith, of Edinburgh, has used this method in fifty cases with forty-six recoveries. In his hands it might succeed in the class of cases under consideration.

Fourth, *écraseur*. This method is neither safe nor practicable.

Fifth, the clamp. The advantages of this instrument are, that it controls the hæmorrhage effectually, and that it is easily and quickly applied. The disadvantages are, that the wound may be a long time in healing should the mass inclosed in the clamp be large, and that the cyst cavity may suppurate profusely. Time is an important element in this as in all capital operations, and probably most surgeons have seen ovariectomies in which the scale seemed to have been turned against the patient by long exposure of the peritoneum in the efforts to check hæmorrhage from wounded vessels. Hence it seems to me that the objections to the clamp in these cases are more than counterbalanced by its advantages. This method has proved successful in the practice of Drs. Cheever and Thorndike, each of whom has had a case of ovariectomy recover under this method of securing the vessels.

We therefore submit it to all operators who have not the wonderful skill of Spencer Wells, that the method used in the above case is worthy of further trial.

CASE II. Miss M., twenty-five years of age, born in Nova Scotia, first noticed an enlargement in the lower part of the abdomen in the spring of 1875. She entered the City Hospital in May, 1876. She then presented the appearance of a woman in the fifth month of pregnancy. The menses were regular, and the tumor seemed to enlarge during those periods.

On the 12th of the following June the growth extended as high as the umbilicus, and was soft and distinctly fluctuating. Two thirds of it lay to the left of the median line. The os uteri was high and pushed to the right side of the pelvis. Palpation upon the abdomen was distinctly felt at the cervix.

The tumor was punctured above the pubes with the aspirator by Dr. Arnold, and twelve ounces of fluid resembling pea-soup were evacuated. On cooling, a layer of fat an inch thick formed on top. A number of hairs about two inches long were found in the liquid, and on withdrawing the needle a hair a foot in length came from the wound.

The patient was somewhat benefited by the operation, and, moreover, it confirmed the diagnosis of ovarian disease and showed it to be of the dermoid variety.

In August Dr. Draper placed her under our charge. She was in a comfortable condition at that time, had fair strength, flesh, and appetite, and the abdomen was not very large. She was advised to wait for cool weather before submitting to an operation.

Early in October this patient returned to the hospital, and desired to have the growth removed, saying that she was of no use to herself nor any one else, and was gradually growing larger and having more discomfort, both mental and physical. Her girth was thirty-four inches, and from the pubes to the umbilicus it was seven and a half inches.

The tumor was situated in the middle of the abdomen. It was smooth, elastic, slightly movable, oval in outline, dull upon percussion, not fluctuating, and reaching to or a little above the umbilicus. Her appetite was fair, bowels regular, and urine moderately free.

The operation for the removal of the tumor was done by the writer, at the hospital, on Friday, October 20, 1876, one week after her menstrual period. Drs. Cheever, Thorndike, Homans, Fifield, Cowles, and a few others were present and rendered valuable assistance.

The incision was about four inches in length. The tumor was punctured with a large trocar, and about a pint of thick, greasy liquid evacuated with difficulty. Some adhesions on the right side having been broken up, the tumor was drawn out of the wound. The pedicle was small, two or three inches in length, and was secured with Wells's smallest clamp. The wound was closed, as in the first case, with deep and superficial silk sutures, and dressed with dry lint, cotton batting, adhesive straps, and over all a flannel bandage. The patient was immediately placed in a warm bed. The operation lasted about forty minutes.

The tumor was five or six inches in diameter, and weighed about four pounds. In the largest cyst was found a ball of hair the size of a hen's egg, which explained the difficulty experienced in emptying it. Attached to the inner surface of this cyst was a small, round, fatty tumor, nearly two inches in diameter, covered with a thick, hairy integument, which exactly resembled the scalp. Some of the hairs growing upon this mass were seven or eight inches long, and firmly attached at their roots. In the centre of this fatty tumor was found a small cyst containing fluid much like that in the large one, but no hair. The walls of



the principal cyst were thick and firm, and contained several smaller ones, some of which were filled with hair and fatty matters, and others with a thin, clear fluid. No bones nor nails were found.

The patient had no shock nor vomiting after the operation. She was kept moderately under the influence of opium for several days, and took beef tea, milk, soda water, and champagne after the first twenty-four hours. Her pulse was 120, and her temperature 102° on the third day, but both were normal on the sixth day after the operation.

The clamp came away in just two weeks, and the bowels moved in ten days without much prostration. She was troubled very little with distention by gas in the intestines. The only complication in her convalescence was a pretty free suppuration along the track of the deep sutures.

She sat up the fourth week. In six weeks the wound was closed, and the patient was well. When discharged she wore, and was advised to always wear a firm, well-fitting abdominal bandage.

This makes the seventh ovariectomy performed in this hospital, but it is the first that has ever recovered. Some of the previous cases were very favorable for operative measures, and great pains were taken to protect them from all hospital influences, but they were invariably fatal. When the new buildings were completed it was thought justifiable to try the operation again under the improved hygienic condition of the institution, and the result is shown by the above case. So far as we know, this is the first time ovariectomy has been successful in any of the larger hospitals in this vicinity. Although the above-mentioned patient was isolated as much as possible from the other inmates, we attribute the favorable result largely to the admirable arrangements for heating, ventilating, and draining the new buildings.

The room occupied by our patient is a corner one on the second floor of the new, three-story, surgical pavilion. It has two windows, both double, and designed to be kept closed except in warm weather, and not to be used for purposes of ventilation. The floor area is sixteen by eleven feet, and the height is sixteen feet.

The fresh-air supply is admitted by an independent inlet from the outer air, and, passing over a coil of steam-pipe and only a short distance before entering the room, it has no communication with the air supply of any other room. Warm air enters through a large register near the ceiling, or another near the floor, as may be desirable, at the rate of about ten thousand cubic feet per hour. This is the result of a number of observations made by Dr. Cowles with Casella's air meter, and it may fairly be considered as indicating rather less than the average amount of fresh-air supply.

The ventilating outlets are of similar dimensions and locations to the inlets, so that the air of the room is undoubtedly changed at least three or

four times every hour. During all the time of this woman's confinement to this apartment the temperature was mild and even, and the room was free from draughts and odors, and most comfortable in every respect. If patients cannot, with certain precautions, recover from ovariectomy in the private rooms of our new buildings, which are all heated and ventilated as above described, it would seem hardly possible to construct suitable rooms for such operations in any large hospital. They are apparently far better adapted for these cases than most rooms found in private houses, which have hitherto been considered preferable for ovarian patients.

In closing this paper we may be allowed to say that the trustees and the superintendent of the City Hospital are to be congratulated on their great and earnest efforts to make the institution what it should be, to wit, well built, well drained, well ventilated, commodious, and convenient of administration.

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## VARICOCELE; ITS RATIONAL CURE.

BY G. W. COPELAND, M. D., BOSTON.

IN medical journals and hospital reports I frequently read of cases of varicocele treated by operative measures. Having had quite a number of these cases come under my observation, and believing that the so-called operations for "radical cure" are unsatisfactory in their results and altogether unjustifiable, I beg leave to submit these cases cured without operations.

CASE I. C. W., aged twenty-five, a medical student, had been a captain of cavalry in the Southern army; he was of spare build and nervous temperament. He had been troubled with varicocele on the left side during his army life. When I first met him the veins were nearly as large as a hen's egg; the testicle was small and the scrotum relaxed. It pained him so much and weighed upon his mind to such an extent that he consulted several surgeons and requested them to operate on him. This, however, they refused to do, recommending palliative treatment instead. Three years after this he wrote me that he was married and had a boy, that his varicocele was cured, and that he believed a large part if not all of the pain and dragging weight was imaginary. He concludes by saying, "The great danger is that a man will have the trouble worse in his head than in his testicle."

CASE II. J. C., aged twenty-four, when first seen had a large varicocele on the left side and a small one on the right. He had been kept in misery from the uneasiness and neuralgia in the organ. He feared a total destruction of the testicle from atrophy, and suffered continually from depression of spirits. About this time a bunion on his left foot

became inflamed. It grew so painful that he had to wear a slipper and use a crutch. Finally, it caused him so much distress and anxiety that he forgot his varicocele, threw away his bandage, and neglected his cold douche. The pain and dragging left the testicle and have never returned. He firmly believes that the disease *went into the union*.

CASE III. G. P., aged twenty-seven, stout and apparently robust, had an immense varicocele on the left side, with pain and dragging weight all the time; also neuralgic pains shooting along the penis. He was almost incapacitated for work, mental or physical, and was literally insane at times, his mind continually dwelling on his trouble.

Two years later, he reports himself entirely cured. He states that he contracted a gonorrhœa, which continued for nearly a year. When this latter took hold of him his former troubles sank into insignificance. The pain and uneasiness have never returned, his health is better, and he says the gonorrhœa cured him.

From these and similar cases I infer that varicocele can be practically cured by freeing the mind from the delusion that impotence, destruction of the testicle, and a host of ill effects will follow. There is no class of patients that require our sympathy more than those afflicted with such mental troubles. If we can only succeed by kind advice in diverting the mind from the disease, the appetite improves, the relaxed condition of the system assumes a healthier tone, the spermatic veins may become smaller, and the pain and dragging cease. As the condition in question is chiefly limited to young, unmarried men, we can do much by assuring our patients that the disease is at its height, and that the veins will gradually become smaller. Tonics, the use of the cold douche, and a suspensory bandage will aid in the cure.

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## RECENT PROGRESS IN MENTAL DISEASES.

BY THEODORE W. FISHER, M. D. HARV.

*Cerebral Physiology.* — We find in the cerebro-spinal system a series of centres of coördination, increasing in complexity of function from below upwards, each having a sensory or receptive and a motor side, and each being more or less automatic. The most probable location of function is as follows: in the spinal cord simple reflex action, presiding over functions purely automatic; in the medulla compound functions of the same kind; in the pons and corpora quadrigemina coördination of the locomotive apparatus, with tactile, visual, and labyrinthine impressions; in the cerebellum, equilibration; in the basal ganglia a great variety of acquired automatic actions, at times and to some extent conscious and voluntary, but still very largely independent. The corpora striata are interposed in the course of the ascending or sensory

fibres, and the optic thalami in the course of the descending or motor fibres.

As it now appears from the recent experiments of Ferrier<sup>1</sup> and others, in the cortex of the brain are to be found centres in which these lower functions are still further differentiated, coming into new relations with each other, and forming the basis of organized ideas. The centres demonstrated by Ferrier as existing in the brain of the monkey are located in the parietal and temporo-sphenoidal region, being bounded anteriorly and posteriorly by regions which give no appreciable response to electric stimulation. They are briefly as follows: (1.) Postero-parietal lobule; advance of the opposite hind limb. (2.) Upper parts of ascending frontal and parietal convolutions; complex movements of thigh, leg, and foot, as in touching the abdomen. (3.) Just below 2, in the ascending frontal; movements of the tail. (4.) Below 2, including both convolutions; retraction with adduction of opposite arm. (5.) Posterior part of superior frontal; extension of opposite arm and hand. Prehensile movements of fingers are situated in lower part of ascending parietal, but cannot be separately distinguished. (6.) Ascending frontal below 3; supination and flexion of fore-arm. (7.) Ascending frontal below 6; action of zygomatic. (8.) Below the last; elevation of ala of nose and upper lip. (9.) Junction of third and ascending frontal; opening of mouth and protrusion of tongue. (10.) Nearly the same location; retraction of tongue. These last two centres correspond to the usual seat of lesion in aphasia. (11.) Lower end of ascending parietal; retraction of opposite angle of the mouth. (12.) Posterior half of superior and middle frontal; eyes open widely, pupils dilate, and head turns to the opposite side. Attitude of attention. (13.) Anterior and posterior limbs of angular gyrus; the visual centre. (14.) Superior temporo-sphenoidal; centre of hearing. (15.) Lower and inner aspect of temporo-sphenoidal lobe; centre of smell. The centre of taste is evidently near by, but difficult to distinguish from that of smell. (16.) Hippocampal region; centre of touch. All the actions indicating these centres were crossed.

The occipital lobes, though giving no response to electric stimulation, are thought by Ferrier to contain the centres of organic sensation, which here become the basis of the various instincts, appetites, and emotions. Destructive lesions were followed in monkeys by loss of the sexual instinct and the sense of hunger. The difficulties of research in this direction are great, arising from the negative character of the symptoms and their subjective nature, with absence of the power of verbal expression in animals. It is necessary to appeal to clinical observation for confirmation of Ferrier's opinions.

The discovery of temperature centres is already announced as a se-

<sup>1</sup> Functions of the Brain. 1876.

quel to the experiments of Ferrier. Eulenberg says, referring to recent experiments by himself and Landois, "Superficial destruction by cutting away the cortex in the upper part of the frontal lobe in dogs results immediately in a considerable rise of temperature in the limbs of the opposite side."<sup>1</sup> He finds, on further experiment, that the rise in temperature always occurs in the muscle or limb corresponding to the motor centre destroyed. Uspensky ten years ago found a vaso-motor centre in the optic thalami, and in the light of recent researches we should expect to find it represented in the convolutions. Brown-Séquard has reported symptoms resembling those which occur on section of the sympathetic, following his experiments on the surface of the brain. It is probable that temperature, circulatory and secretory centres exist in the convolutions, but we should not expect to find them limited to the immediate neighborhood of the motor centres. Every emotion has its appropriate change of temperature. Vaso-motor and secretory phenomena wait on every emotional impression. The blush of shame, the pallor of rage, the palpitation which precedes public speaking in one unaccustomed to it, the dryness of the fauces in stage fright, the blanching of the hair from fear, and jaundice following sudden grief are but a few of many illustrations. The above centres, therefore, seem to be as nearly related to the emotional as to the motor region.

The anterior lobes are also irresponsive to electric stimulation, with the exception of 12, which Ferrier found to be a centre for the movements involved in the attitude of attention. Attention seems to consist in the power of inhibiting or holding in arrest the ideational impulse, which naturally tends toward immediate expression, and allowing it to find its way according to certain laws of association. Attention, or the inhibition of the motor expression of ideas, is at the basis of all the higher intellectual faculties. Common observation, as well as anatomical science, has with probable correctness regarded the anterior lobes as intimately related to the higher intellectual faculties, but the nature of this relation is now beginning to be better understood.

Ideas are sensori-motor themselves, being based on remembered sensations with their corresponding motor impulses, inhibited it may be, but essentially present. In man the faculty of speech allows of abstract thinking, but this is also based on sensori-motor impulses. Near the junction of the third and ascending frontal convolutions are centres in which are intimately associated impressions received at the sight and sound of words, and the movements necessary in speaking and writing. These centres are in relation with other centres where impressions from the things represented by words have been received and organized. Re-excitation of one of these centres spreads immediately to all, and results in some form of motor response unless the impulse is inhibited. In per-

<sup>1</sup> *Berliner klinische Wochenschrift*, No. 42, 1876.

sons able to read with facility the process in silent reading is nearly automatic, while in those imperfectly educated there is consciousness of a suppressed speech, which indeed sometimes reaches the lips. This process is an example of all ideation, except that in abstract thinking the impulse travels along certain accustomed routes of association, and the attention is fixed on revived words in the brain instead of on the written page. Neither are we conscious of the steps of this process, so automatic does it become by life-long habit. It is the most thoroughly automatic function of the brain, and we only take cognizance of certain successive stations, and instantly forget the intermediate steps. It is probable that thought in any definite manner without words is impossible.

Ideas, then, are based on revived impressions, sensory and motor, and are simply re-excitations of the same cells or centres which received the original impression; so that ideation resides wherever conscious revivable impressions have been received. And since the revived sensation or emotion and the corresponding word or other motor response may be and probably are often somewhat widely separated, the parts of a compound idea must depend on an intricate network of fibres for acting together. In the child, this registering and association of ideas, or parts of ideas, may be watched, although it goes on in a very rapid manner. A single impression and a single effort of will, as in learning a new word, may establish an organic nexus which will last its lifetime.

*Insanity and Localization.* — The recent progress in our knowledge of the localities of cerebral functions will prove of great service in the study of mental diseases. So, also, the phenomena of insanity cannot but tend to confirm and explain the existence and relations of the cerebral centres. Even now, at first sight, we can perceive certain important relations between the different forms of insanity and the various functions of different parts of the cortex as discovered by Ferrier. In idiocy, for instance, the anterior lobes are often deficient. Intellectual idiocy, when strictly congenital, is most frequently accompanied by imperfect development of the anterior lobes. This is best seen in the Aztec or bird-like type of idiocy. Griesinger says,<sup>1</sup> "These little beings are extremely lively, their movements sprightly and well coördinated; they are happy, easily excited, inquisitive, but very capricious, little capable of attention, and of weak intellect." He further mentions a man who had never been idiotic, who was moderately intelligent, and read a great deal, but who had never manifested any sexual desire. The posterior lobes in this case did not cover the cerebellum. There is antero-posterior shortening in most cases of idiocy, but it is usually at the expense of the anterior lobes, and the most common mental char-

<sup>1</sup> Mental Diseases, page 378.

characteristic is absence of attention, perception, memory, and power of speech. The motor and emotional functions, though defective, are less deeply impaired. A careful analysis of the mental condition and corresponding cerebral deficiency of idiots would be of great use, if measurements were made in a large number of cases. It is probable the wonderful powers of certain phenomenal children are due to an excessive and abnormal development of the related cerebral centres. The boy orator, Shannon, might perhaps exhibit some enlargement or increase of gray substance in the region of the speech centre.

The condition known as moral idiocy is compatible with considerable intellectual activity if not strength of mind. In these cases the child does not *look* idiotic, and the frontal regions may be quite normal in appearance. No observations have been made as to the posterior conformation of the skull, but it is probable that the insensibility to moral impressions, the absence of ordinary feeling, and the perversion of the natural instincts and appetites depend on some defect of the posterior portion of the brain.

The relations of epilepsy to the cerebral motor centres have been carefully studied by J. Hughlings Jackson, and many facts corroborative of Ferrier's views clinically observed. Cases of partial spasm are most instructive. He finds certain groups of muscles affected together, the convulsion resembling the effects of electric stimulation of some one of the motor centres of Ferrier. General convulsions result from a discharging lesion affecting the whole motor region. The insanity of epilepsy, in other words the mental symptoms, consist of unconsciousness at the time of the fit, with mental dullness or weakness, slight or extreme, transient or permanent, afterwards. The mania of epilepsy is a rather brief excitement after the fit, in which automatic acts of more or less complexity occur, generally of an impulsive, violent, or furious character. These acts are generally forgotten when the patient fully recovers, as they are done in a period of semi-consciousness. The lighter the fit the more complex and seemingly voluntary the conduct. The predominance of motor phenomena of an impulsive and violent nature, depending on the delirious ideas of a half-awakened sensorium, corresponds to what might be expected of disorder superficially affecting the motor region of the convolutions.

Choreic insanity is of a similar nature, and by inference has a similar location. Though the theory advanced by Kirkes fifteen years ago, and since supported by Hughlings Jackson,<sup>1</sup> is still in controversy, it no doubt contains a part of the truth, namely, that embolism is *one* cause of chorea. The embolic theory accounts for many cases, and reconciles many phenomena previously unexplained. The connection

<sup>1</sup> London Hospital Reports, 1864; Times and Gazette, March 6, 1869; British Medical Journal, December 23, 1876.

of chorea and rheumatism has long been observed. Cases are reported where unilateral chorea has supervened suddenly in patients with rheumatic cardiac disease. Every nerve centre is a centre of coördination, and may be the seat of lesion in some cases of chorea, but that the motor centres of the cortex are often at fault seems evident from the complex and voluntary nature of the movements implicated. The speech centre is very frequently involved. It is noticeable, too, that chorea as well as epilepsy is incident to that age in which the movements affected are less thoroughly organized than in adult life. Dr. Jackson asserts that partial spasm, at the beginning of general convulsions, attacks first those movements latest and least perfectly automatized.

The insanity which sometimes, though rarely, accompanies chorea is not an incoördination of ideas resembling in another sphere the insanity of the muscles. It consists in the cases I have seen rather in a general state of irritability, with occasional violent outbreaks of uncontrollable temper; a sort of impulsive nervous discharge in the emotional region. The comparative infrequency of insanity in chorea shows that the lesion is more strictly confined to the motor region than in epilepsy. The apparent partial dementia in recent cases seems to be due to inability to express ideas freely on account of disorder of speech; or perhaps also to want of power to fix the attention upon definite lines of thought in the midst of so much disturbance in the motor centres.

General paralysis of the insane seems to exert its first and deepest effects on the anterior and middle lobes, and here as well as in senile atrophy the shrinking of the convolutions is most marked. A sense of well-being is characteristic of this disease long after the motor symptoms are well advanced. The sexual appetite is increased at first, or perhaps the restraining power of the will over this function is diminished. The memory is lost early. Speech and the nicer voluntary manipulations are first affected. Violent outbreaks of excitement occur from the natural resentment of the patient to the opposition of friends. He feels well, does not realize his mental and physical infirmity, and has lost his control over the immediate and explosive expression of his emotional states.

The two grand divisions of insanity into mania and melancholia must be based upon some broad anatomico-pathological distinction. Emotional disturbance, and usually depression, precedes almost every case of mania when it does not persist as a more permanent symptom. This is what might be expected, since the receptive side of the brain would probably first feel the effect of disease, especially that arising out of morbid organic states. Melancholia is at first and often for a long time a purely emotional form, but as the idea of obtaining some kind of relief by action gains ground, the self-concentration gives place



to self-assertion ; there is a stimulation of the will, and an activity of the motor side of the mind. In this state suicidal and homicidal impulses may arise, or the delusions gradually formed to account for the patient's mental pain may lead to active delirium. There is a tendency in some temperaments for morbid impressions to run quickly into motor expression, and the affective stage being very brief the case is considered one of mania from the first. I have often noticed among the insane a large anterior development of the cranium associated with typical cases of mania, and in cases of persistent melancholia or chronic hysterical excitement a very broad development posteriorly. This no doubt has been observed by many independently of Bucknill and Tuke's statement.<sup>1</sup> Many and probably most cases of idiocy and insanity, however, do not depend on congenital deformity of the skull, but on disease or injury, arresting the development or affecting the functions of a well-formed brain.

Various forms of mental disease in both male and female are closely related to disorder of the sexual functions or disease of the sexual organs. If the sexual instinct is located in the occipital lobes, in common with other organic sensations, we should expect emotional forms of insanity to prevail in such cases. And this I think is usually the case. The emotional disturbance of puberty and the menstrual period show the relation in question. The mania of masturbation oftener consists in impulsive conduct as a relief to disordered emotion than in any intellectual aberration. The dementia of masturbation is at first loss of moral sense, and then insensibility to impressions generally. Puerperal mania, which is the severest form of this class, consists in most cases of emotional excitement or depression followed by a rather transient and changeable delirium. The fact that religious emotion and subsequent delusion are common in all these forms is corroborative of the above location. The intellectual acuteness in hysteria shows that the emotional centres are chiefly involved, and the fact that motor phenomena, such as spasm, paralysis, or catalepsy, occur quite independently of delusion seems to indicate that the most traveled route lies from sensation, through emotion to action, leaving intellect a little one side.

So-called phthisical mania is characterized by excitement, restlessness, hypersensitiveness, and irritability, with little aberration of intellect except self-deception as to the nature and extent of the pulmonary trouble. Disease of the lungs and heart seem to be associated with hyperæmic states of the brain. In phthisis, as well as in hysteria, there is an involvement of the temperature centres, probably at the cortex. The condition of a consumptive patient resembles a modified attack of chills and fever, with low temperature in the morning, a rise in the afternoon, and sweating at night. That these phenomena may be pro-

<sup>1</sup> On Insanity, page 411.

duced by superficial disease of the brain is shown in a case of my own, where the most regular and distinct series of chills, fever, and sweating occurred in cerebral hyperæmia induced by grief and prolonged watching; and also in a case recently reported by Dr. Nichols, of Cambridge, where chills and fever resulted from unsuspected meningitis. It is probable that many symptoms, sensory, motor, vaso-motor, trophic, and secretory, which have been attributed to disease affecting the subordinate centres must be referred to a higher source in the convolutions.

Though mania sometimes accompanies hyperæmia due to organic disease of the heart, it is more common to find functional derangement due to inhibition or irregular stimulation, accompanying purely emotional disorder. This is the case in hysteria, and especially so in hypochondriasis and melancholia. Fear and apprehension are peculiar to these states of mind, and dread of sudden death often excites such palpitation as almost to give real cause for anxiety. I recall the case of a man who died exhausted after two or three years' struggle with such attacks. Another man still lives after having summoned his family to numerous death-beds, though now a less dramatic invalid. Another after a briefer experience, often coming to my door at four o'clock in the morning to say that he was dying, finally acquired the delusion that he had been poisoned, and starved himself to death. Agoraphobia is of a similar nature. A lady patient of mine had for years asthma, dyspepsia, hemicrania, and palpitation of the heart, each disorder prevailing for a while and giving way to the next. She finally settled into a state of chronic agoraphobia, with a pulse constantly at 120. It seems likely that these and similar cases depend on a neurasthenia affecting chiefly the occipital lobes, and due to emotional or sexual excesses.

The intimate relation between disorders of the abdominal viscera and melancholia is well known. Depression and dyspepsia are twin sisters. Nervous exhaustion, constipation, disordered liver, dyspepsia, wakefulness, irritability, and depression constitute a train of symptoms which may be touched off at either end. It reads as well backwards as forwards, and if Ferrier is right the occipital lobes suffer in either case. Organic discomfort is immediately made evident by emotional disturbance; and disappointment, grief, and anxiety just as surely produce organic disorder. For a hundred cases confined within these limits there may be one in which the intellect becomes seriously affected.

Contrast with this form of mental disorder the delirium at once arising from large doses of alcohol. Here the cause of necessity affects the whole brain at once, and all its functions are deranged. In delirium tremens, mania a potu, and mania from chronic alcoholism, delusions, hallucinations, and great restlessness are common. In a fit of intoxication, loss of attention, affection of speech, disturbance of vision, and mo-

tor incoördination generally are coincident with the emotional excitement. All the functions seem at first stimulated under loss of the inhibitory or restraint power, but are soon abolished by complete narcotism.

Disorder purely intellectual from the first is rare, but I have recently had a patient whose affection was of this nature.<sup>1</sup> A gentleman, with full frontal development, by the way, had complained of frontal headache for some time, induced by too close attention to accounts during a hot season. After exposure to heat and fatigue in the middle of the day, he took a ride in the afternoon, appearing as well as usual, but speaking of his recent disagreeable experience. The next morning he left his hotel without eating or speaking to any one, and started on a tramp of one hundred and thirty miles, under the delusion that he was to meet a dead burglar who was to inform him where a great amount of money was buried. This delusion disappeared at the end of a week, as suddenly as it came. The patient could not remember how he acquired this delusion, as the first few hours after leaving the hotel were a blank. He looks back upon the whole experience as a nightmare or waking dream. He showed during the tramp, and in the letters he wrote quietly relating his new prospects, but little excitement, and conversed sensibly and appeared naturally to those with whom he came in contact. His most persistent physical symptom was a tight feeling in the frontal region, which indeed lasted for weeks after his mental recovery, and which was increased by letter-writing or attention to accounts. I think this case very significant of the localization of the functions affected. The motor centres were stimulated apparently from the intellectual side, and a delusion of very narrow range, due to hyperæmia of the anterior lobes, was carried out in action, with the least possible disturbance of the emotional centres.

These hints of localization drawn from a cursory view of a few forms of mental disease I am aware have been stated with too much confidence, from a desire to economize space as far as possible. The subject is new, and the questions involved can be determined only by patient study of symptoms in their bearing upon the results of continued experiment.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. GREENOUGH, M. D., SECRETARY.

JANUARY 22, 1877. *Basilar Meningitis; Chronic Otorrhæa; Carious Fistula through the Mastoid.* — DR. J. ORNE GREEN reported the case.

R. B., coal-heaver, aged twenty-four, entered the City Hospital on Decem-

<sup>1</sup> Delusion of a Week's Duration, induced by Heat Stroke. Read before the Boston Society for Medical Observation, December 4, 1876.

ber 13, 1876; the history was imperfect, and all that could be obtained was that the general health had been considered good, and that he had had an otorrhœa on the left side at times since he was a baby. Four days before entrance there was a chill followed by nausea and vomiting, and almost immediately by delirium, which had continued ever since. He was not rational after entering the hospital. Temperature  $101.3^{\circ}$ ; pulse  $78^{\circ}$ .

December 15th, ten A. M. The patient was transferred to me by Dr. Lyman. He was lying in a stupor from which he was easily aroused; he seemed to understand questions, although imperfectly, but his speech was unintelligible; on being asked the seat of pain he apparently tried to point to the head. Just in front of the left ear was an old sinus healed by a thin cicatrix, through which there was fluctuation of pus in small amount. Over the mastoid was a small fistulous opening through the skin, without œdema or swelling of the tissues; with the probe no bare bone could be felt. Meatus filled with thin purulent discharge. Parts about left ear very sensitive to pressure. Pupils equal and readily movable. One short chill this morning, and another at noon. Temperature  $101.8^{\circ}$ ; pulse 86. Tongue dry and coated. Four P. M. Had been violently delirious all day. Was etherized, and the whole mastoid exposed by a long incision through the periosteum, and a small carious fistula was found, nearly an inch from the opening in the skin, at the extreme upper and anterior part of the mastoid, apparently entering into or near the antrum mastoideum. The walls of this fistula were carious, and were removed with a gouge till healthy bone was reached, making an opening about one sixth of an inch in diameter into the interior of the bone. A considerable quantity of grumous material was syringed from the cavity. Examination of the meatus auditorius showed that the membrana tympani was destroyed and the tympanum in a state of chronic purulent inflammation. The healed sinus on the cheek was opened by simple pressure and a small amount of pus evacuated.

He was ordered an ice-bag to the head, douching of meatus and sinus with warm water every hour, and Dover's powder as necessary. At evening visit, temperature  $100.6^{\circ}$ ; pulse 103.

December 16th. Very much as yesterday before the operation; violently delirious, requiring a strait-jacket. Temperature  $102.7^{\circ}$ ; pulse 96. This morning water passed for the first time from sinus out of meatus, washing out much inspissated pus. Evening, temperature  $104.3^{\circ}$ ; pulse 132.

December 17th. Less delirium, but more stupor. Congestion of conjunctiva of right eye, and right pupil contracted and fixed. About five P. M. seemed to be moribund, but revived under stimulants. In the morning, temperature  $100.3^{\circ}$ ; pulse 138. Evening, temperature  $103^{\circ}$ ; pulse 150.

December 18th. Greater stupor. Complete paralysis of right facial; apparently partial hemiplegia of right side; conjunctiva of right eye more congested; pupil closely contracted and whole eyeball anæsthetic. Temperature  $101.2^{\circ}$ ; pulse 144. Evening, temperature  $102.6^{\circ}$ ; pulse 144. Became gradually comatose through the night, and died at eight A. M. No autopsy could be obtained.

The diagnosis of meningitis could not be doubted; the tenderness about the ear, the old sinuses both in front and behind the ear, and the fistula through

the bone rendered caries of the deeper portions of the petrous bone extremely probable, although it was impossible to find it with the probe. The object of the operation was to establish a counter-opening into the tympanum, by means of which any confined pus could be syringed out of the meatus, and in this case, as in several others which I have seen, it was only after repeated douching for a day or two that the inspissated pus in the tympanum was finally washed out and a communication established between the meatus and the wound. The position of the fistula in the bone was in this case different from the usual one. Instead of being in the mastoid proper where the walls of the bone are thin and easily perforated, it was in the extreme upper and anterior part of the mastoid, just a little above and behind the auditory meatus and immediately below the root of the zygoma, the anatomical landmark in operating which defines the upper wall of the petrous bone. An opening through the bone at this point enters the upper mastoid cells just beyond the antrum.

On a skull in my possession, just at the point at which the fistula existed in this case, is quite a large foramen, which enters the upper mastoid cells and probably serves, like many of the other small foramina of the mastoid, for the passage of a vein. In the few other temporal bones which I have examined, this spot is always occupied either by one foramen of good size or by a number of minute foramina grouped together. The bone around this spot is the most dense of any portion of the mastoid, and it is difficult to account for the existence of the fistula here, except on the theory that the inflammation extended along a vein or veins from the inflamed antrum mastoideum, and so produced a caries of the foramen through which the vein passed. The bone around the fistula in this case, after the caries had been removed, was noticed to be very white and dense, and at the time I thought that I had to deal with an hyperostosis of the mastoid cells, but on examining the natural structure of the bone I am now satisfied that I was mistaken, and it merely had an opening through the very dense portion of the bone.

Dr. Green showed a preparation of a temporal bone, with a bristle in the small foramen, which he spoke of as being pretty constant in the situation of the fistulous opening in the case reported.

*Fatal Case of Cerebral Disease.* — DR. MINOT read the following account of the case, which was kindly furnished by Dr. Otis E. Hunt, of Newtonville, the physician in charge: —

"A. G., a close student, eighteen years of age, of fair health, was taken, December 31st, with a sudden attack of deafness, most apparent in left ear, with a change in the sound of his own voice while singing in church. The deafness largely passed away in a few hours, but continued in a slight degree to the time of his death. On January 1st, 2d, and 3d he attended school, as usual, but had some headache on the third day. On the morning of January 4th he awoke with severe headache confined to the right temporal and occipital regions. This one-sided headache continued to the time of coma, and was the only head symptom, except some singing in the left ear, which occurred on the 5th and disappeared on the 20th. On January 4th he also had numbness and coldness of the left hand and foot at several different times, lasting from ten to thirty minutes each time, and these parts were observed by his mother to

be much colder to the touch than the right hand and foot. January 5th and 6th he took short walks out-of-doors, but felt worse after the exercise each day. During the next four days there was no important change, but the patient felt weaker, and slept much. On the 11th his gait became uncertain, he seemed unable to guide himself, but could walk off briskly if let. Once or twice he came near falling. On the 13th and 14th he was troubled to find suitable words to express his thoughts, and at times his articulation was quite indistinct. He claimed to see unreal objects and fell once while attempting to pass from one room to another. At this time his swallowing was noticed to be clumsy, though never very troublesome. He also, at this time, had an involuntary dejection in bed, and became very somnolent, sleeping twenty-three out of twenty-four hours. There was no paralysis, no vomiting, no intolerance of light or of sound, no inequality of the pupils, which were normal in size, and responded to light up to January 17th, when oscillation was first observed, and dilatation commenced and continued to the time of death. There was no chill. The temperature was normal till the 12th, when it rose to 99.5° F. in the axilla; was at 101° on the 13th; 102.6° on the 14th; 103° on the 15th; reaching 104°, its highest point, on the 19th, when it fell to 103°, where it remained.

"From January 5th, when I first saw him, to the 12th, the pulse ranged from 70 to 80, and was regular. On the 13th and 14th it was only 64 in the morning, but rose to 76 in the evening. After the latter date it rose each day several beats, being from 120 to 140 during the last two days. There was no intermittence. The urine was involuntary after the 18th to the time of death, which was on the 21st. He had coma from the 18th to his death, with abundant mucus in the throat and trachea, and some stertor; no convulsions.

"Since the above was written I have learned the following additional particulars: about the middle of December, A. was taken with mild 'rheumatism of the chest,' felt mostly on motion and full inspiration. He was in the house about one month on account of it, and was fully well by the 23d of December. No physician was called to him. This attack may make embolism more plausible as a cause."

DR. MINOT said he saw the patient January 15th. The pulse was then 76, slightly irregular, of good strength; respirations 24; temperature of left axilla, 101.4° F. The patient was drowsy, frequently falling asleep during the visit. Mind tolerably clear; he answered questions readily and intelligently, but the speech was decidedly affected, there being inability to use the right word in some cases. The tongue was clean, and protruded straight. The grasp of the two hands was equal and strong. The patient complained of pain in the right parietal and occipital regions. He had been working very hard, preparing for examination for Harvard College. Unfortunately there was no post-mortem examination, and the nature and situation of the lesion in this interesting case must remain uncertain.

*Osseous Deposits in Choroid.* — DR. WADSWORTH showed an eye, removed on account of sympathetic ophthalmia, which contained a bony formation in the choroid and a calcareous deposit in the lens. He gave the following his-

tory: The patient, fourteen years ago, while serving as a fireman on a steamer, got what he supposed to be a spark in his right eye, which excited a severe inflammation, lasting several weeks, and leaving the sight of that eye very much impaired. The eye, however, remained quiet for five or six years, when a blow from a potato roused fresh inflammatory manifestations, which resulted in total blindness. From that time, namely, eight or nine years ago, the eye has been irritable and tender, often being quite painful. In August last he presented himself at the City Hospital with sympathetic inflammation of the other (the left) eye, which dated back a week. The right eye, the one originally injured, was somewhat shrunken, the cornea irregular and considerably diminished in size; there was no anterior chamber, the pupil was closed and the iris disintegrated. There was circumscribed corneal congestion and tenderness on pressure. The left eye showed an active iritis, with several posterior synechiæ, and the media were somewhat cloudy.

Enucleation of the right eye was advised, but only acceded to three or four days later, atropine being meanwhile employed locally. The operation was performed without an anæsthetic, the patient refusing to take ether. At the end of three or four weeks' treatment in a darkened room, by hot fomentations, constant use of atropine, etc., the posterior synechiæ of the remaining eye were broken down, the inflammation subsided, and functions of the organ became apparently normal.

It is impossible to decide in this case with certainty whether the sympathetic inflammation of the other eye was excited by the irritation of the nerves from the bony growth in the choroid, by pressure from the calcareous degeneration in the lens, or as a result of contraction going on in the products of the old inflammation. The latter, however, seems the most probable, as the eye had been irritable, tender, and frequently painful from a time at which neither the bone in the choroid nor calcareous degeneration of the lens could have existed. This length of time, namely, eight or nine years, during which the irritability and tenderness of the eye continued before exciting sympathetic inflammation was quite long. But the chief point of interest in the case is found in the successful result as regards the second eye, such a result being very rare. Modern authors are unanimous in the opinion that when sympathetic inflammation is well established in an eye, there is very little chance of its escaping without serious damage, even enucleation of the other eye seldom appearing to have any beneficial effect. On the other hand there are a number of cases recorded in which the sympathetically affected eye has become totally blind, while the eye which excited the sympathetic disease has retained a useful amount of vision; this has led to the rule that sympathetic inflammation once in active course, the primarily diseased eye should not be removed provided tolerable vision in it still remains.

*Small Renal Calculus.*—DR. GREENOUGH showed the specimen and reported the case, which he considered interesting from the fact of so small a calculus having been found.

He was called to the patient, a gentleman somewhat under forty, on Tuesday, October 31st, at eight A. M., and found him in a violent paroxysm of pain. The perspiration was pouring from his forehead, and he was evidently suffer-

ing most intensely. The pain was confined to the left hypochondrium, just below the ribs, and did not extend upwards or downwards. The account he gave was that he got up to urinate, and having done so, he raised his left leg to get into bed again, and was suddenly seized with the pain in the region mentioned. On examination the abdomen was found natural, not distended, and nothing unusual could be discovered. There was no contraction of the cremaster muscle, the scrotum being, if anything, rather more relaxed than usual. A quarter of a grain of morphine was given subcutaneously, followed by gradual, but perfect relief. A bottle of the urine last passed was taken, and on examination several crystals of oxalate of lime and uric acid were found, as well as blood corpuscles.

On visiting him in the afternoon, it appeared that he had had, at about eleven A. M., a second paroxysm which was relieved by a physician in the vicinity by the same amount of morphine hyperdermically administered. From that time until the afternoon of the third day he was comfortable, only feeling somewhat "sore;" then he had another attack, but much less severe. On the fifth day he found the specimen shown in his pot after passing his water. It was quite small, about the size of a No. 6 shot, weighing one and one fourth grains, one diameter being somewhat longer than the other, covered with little rough spiculæ, and consisting of oxalate of lime. At one point there was evidence of fracture, as though a small piece had been broken off, and Dr. Greenough supposed this to explain the attack on the third day.

The amount of pain produced by so small a body was of interest, as also the complete relief given by a moderate dose of morphine subcutaneously. Dr. Greenough thought that this must be due to the relaxing effect of the drug on the ureter in part, as well by its direct action in deadening pain, and such being the case the use of subcutaneous injections during the passage of calculi was more than simply palliative. If the calculus had been in the right instead of in the left kidney, it would have been likely to have been considered a case of biliary calculus on account of the local character of the pain. The patient has had no return, and when last examined his urine was free from oxalate of lime.

Dr. JACKSON said that in several cases that had come under his observation, quite small calculi had produced an amount of pain altogether disproportionate to their size.

Dr. WARE spoke of a case where a calculus not more than a third of the size of the one shown had caused such suffering as to make it necessary to keep the patient under the effects of ether from six A. M. to six P. M. on the following day. Biliary calculi, even when quite small, sometimes cause great pain. He referred to the case of a gentleman who had some suffering from a calculus still in the kidney, also when it passed through the ureter, but the suffering was most intense after it had entered the urethra, and it required surgical interference to remove it.

Dr. BIGELOW said that the openings of the ureters into the bladder were small, almost probe-like. A calculus stopping there would cause a comparatively sudden dilation of the ureter by the accumulation of urine which would be painful. Moreover, these renal calculi are apt to be sharp and rough.



DR. WILLIAMS spoke of a case where two calculi had been passed. The patient was instructed to hold his water as long as possible, and pass it with force when he could not hold it any longer. He did so, and the calculus was ejected with force enough to make an audible noise when it struck the pot. The pain during the passage through the ureter was severe, but its urethral passage was not felt.

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### THE PHAKOMETER, FOR THE DETERMINATION OF THE FOCUS AND CENTRE OF SPECTACLE LENSES.<sup>1</sup>

IN this little pamphlet Dr. Snellen, of Utrecht, gives us a description of a new and ingenious instrument he has contrived for the above purpose. The accompanying wood-cut is copied from the one given by him.

The new numeration of spectacle lenses consequent on the introduction of the metric system is rapidly winning its way into favor in this country, and daily gaining adherents. The ophthalmic surgeon, adapting and working with metric glasses, abundantly realizes the truth of the claim made by Donders at Heidelberg in 1875, that this system would be found the most convenient, the quickest of application, and the most exact. A few months' experience with it brings a vivid sense of the difficulties and complexities of the old inch scale.

At first the glasses of the former trial-case had to be used, their metric values being ascertained by means of the table published by Snellen and appended to his "Optotypi," or test types. Subsequently, Roulot, Nacet, and Crêtès, of Paris, began to furnish trial-cases of glasses, ground according to the new scale. Such glasses, in the possession of the surgeon, would serve as standards with which to compare the ordinary lenses of commerce.

For an accurate determination, however, we must have an accurate standard. This is particularly necessary at the present time, when the tools by which glasses are fashioned are undergoing a change of shape to correspond with the new required numbers. The old standards have to be discarded and new ones provided.

The strength of a convex standard lens can be found directly by allowing parallel rays, falling upon it along the line of its principal axis, to form an image on a screen placed behind it, the distance between the lens and the image being its focal length. In practice this method can be successfully employed only with the stronger lenses, the weaker forming a diffuse and faint image at a more or less considerable distance, rendering accuracy of measurement very difficult.

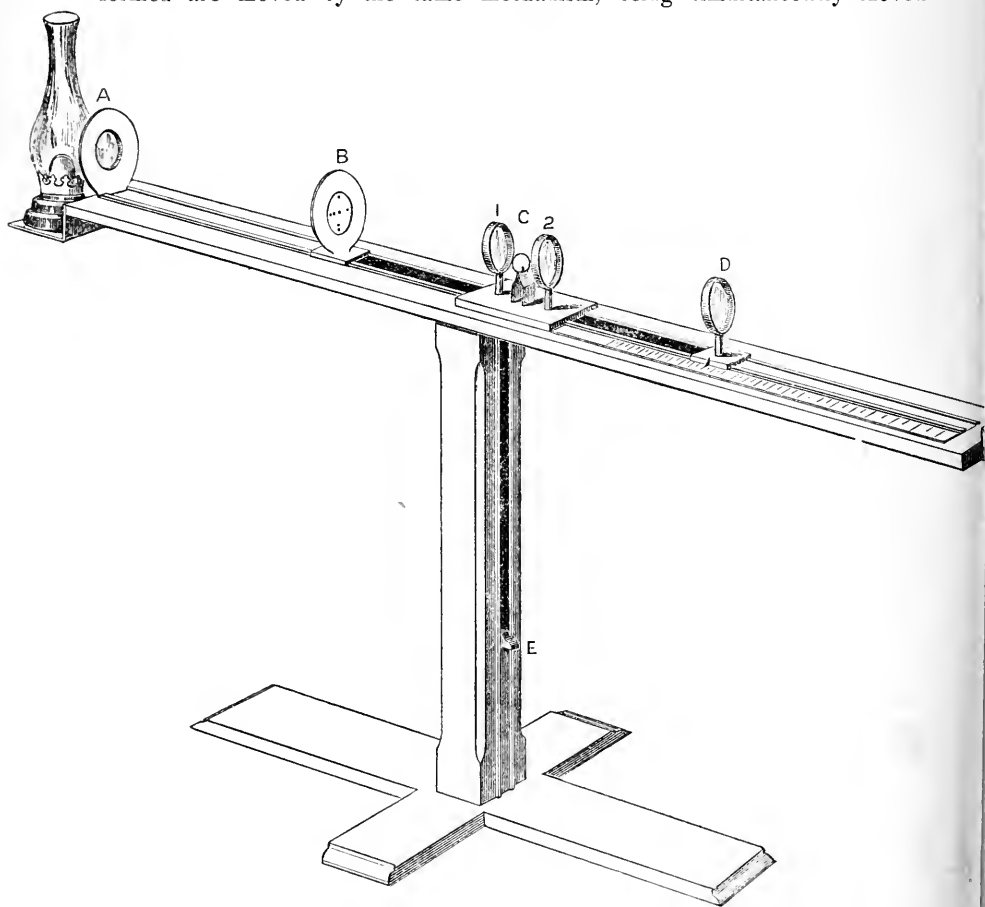
Donders has described a method of measuring the strength of a lens by means of the ophthalmometer. There are certain difficulties in the way of applying this method, not the least of which is the fact that an ophthalmometer is possessed by comparatively few.

Dr. Snellen has recently invented an instrument by means of which the metric strength of any convex lens, spherical or cylindrical, can be immediately and accurately read off, and at the same time its centre determined. It

<sup>1</sup> *De Phakometer, ter bepaling van Focus en Centrum van Brillglazen.* Door Dr. HERMAN SNELLEN.

is called a "phakometer," and is based on the principle that when an object and its image formed by a convex lens are of equal size, object and image are equidistant from the lens, and such distance is twice the focal length of the lens.

In describing the instrument I will, as far as possible, follow Dr. Snellen's own words. A reference to the wood-cut will render the explanation easy to follow. The luminous object (B) and the screen (D) on which the object is formed are moved by the same mechanism, being simultaneously moved



towards or made to recede from the lens, placed midway between them, at an equal rate. Each is affixed to the extremity of a thin, very flexible, steel ribbon, running along the track on which object and screen move, and descending side by side into the upright on which the track or flooring of the instrument is supported. Passing down this upright support they are secured each to the same movable button (E). Pushing the button upwards causes the distal extremities of the steel band to pass in opposite directions along the track; pulling it down brings them again nearly together in its centre, followed of course by the object and the screen.

The luminous object consists of a black metal screen pierced with several fine openings arranged in the form of a cross, and covered with ground glass. It is illumined by parallel rays proceeding from a lamp placed in the focus of a lens (A), and on a projecting shelf attached to the phakometer. The screen on which the image is formed consists of ground glass, and has on it black dots, corresponding accurately to the little openings on the screen but of course in reversed position.

The lens to be examined is held in a clip (C) consisting of two metallic rings placed in the centre of the apparatus, midway between the luminous object and the screen. One of these rings has an upright spur projecting from it, designed to point out the true centre of the lens under examination. An auxiliary lens of 2.75 dioptrics is placed on either side of the clip (represented by 1 and 2 on the diagram). The distance between these lenses is fifty millimeters.

The whole length of the apparatus is eighty-six centimeters, its height fifty-three centimeters. The luminous object and the screen can be separated 777.94 millimeters from each other. At this distance a sharp image of the luminous points is formed on the screen, and here the zero point of the scale begins. This scale is engraved on a strip of metal, running parallel to the track along which the screen moves. Its divisions correspond with the metric lenses from 0.25 up to twenty. A small pointer projects from the screen for the purpose of denoting the division of the scale opposite which it stops.

The lens the value of which is to be ascertained is placed in the central clip, and object and screen are moved from or brought toward each other until a sharp image of the luminous points is formed on the screen. The division of the scale opposite the point of arrest of the screen shows the value of the lens in dioptrics. If the luminous points do not exactly coincide with the dots on the screen, already described, the lens is improperly centred, and must be moved until correspondence is secured. The true centre of the lens is then indicated by the pointer attached to the clip.

The values of cylindrical lenses can easily be found in like manner, lines instead of points being formed on the screen. Approximate determinations of concave spherical and cylindrical lenses can also be made by combining them with stronger convex glasses. Lenses with one face spherical and one cylindrical can be analyzed easily and with considerable correctness. Absolute accuracy can however only be predicated of symmetrical biconvex lenses for which the scale is meant. For these the instrument will be found correct within 0.05 of a dioptic, a lens having a focal length of twenty meters.

The advantages of the phakometer may be briefly summarized: First and foremost it establishes the accuracy or want of accuracy of our new test lenses. Further, it enables us to convert our former inch glasses into dioptrics, tells us what dioptric a patient is wearing, and informs us whether the optician has furnished the glass designated in our prescription; all this more rapidly, easily, and correctly than by the old method of comparison. Finally, we discover whether glasses are properly centred.

In connection with this account of the instrument I have been urged to publish the results of my examination of Nachtet's trial-case of metric glasses,

and to give the errors I found. These measurements were made with the utmost care, and repeated several times.

## SPHERICAL.

No. of Dioptrie.	Error.	No. of Dioptrie.	Error.
0.25	0	5.50	0
0.50	0	6	0
0.75	0	7	0
1	0	8	0
1.25	0	9	0
1.50	0	10	+0.15
1.75	0		
2	0	11	0
2.25	0	12	0
2.50	0	13	0
2.75	-0.05	14	0
3	0	15	0
3.50	0	16	-0.27
4	0	18	-0.22
4.50	0	20	-0.12
5	0		

## CYLINDRICAL.

No. of Dioptrie.	Error.	No. of Dioptrie.	Error.
0.25	0	2.75	0
0.50	0	3	0
0.75	0	3.50	+0.12
1	+0.05	4	0
1.25	+0.05	4.50	+0.05
1.50	+0.15	5	0
1.75	+0.20	5.50	0
2	+0.15	6	0
2.25	0	7	+0.15
2.50	+0.1		

[NOTE. I am under much obligation to Dr. Charles H. Williams, of Boston, who was kind enough to lend me his phakometer while I was awaiting the arrival of my own.]

## STATE SOCIETIES' WORK.

THE Transactions of the Illinois State Medical Society contain the work of the annual meeting at Urbana in May, 1876. They are chiefly a series of reports on various subjects connected with medicine and surgery, prepared by some of the most prominent physicians. The report on the progress of physiology we notice was made by Professor Sarah Hackett Stevenson, of Chicago. A movement was made having in view the establishment of a state board of health.

The Transactions of the Meeting of the Ohio State Medical Society, held at Put-In-Bay, are full of interest. Among the numerous papers we may mention that of Professor William B. Davis, of Cincinnati, On Human Vaccine, Vaccino-Syphilis, and Animal Vaccine, containing letters from Hebra, Sigmond, Zeissel, and others, on these subjects. It is an exceedingly valuable and

interesting communication. Dr. T. A. Reamy reports several cases of cancer of the neck of the uterus treated by the new method of cutting, scraping, burning, etc., with very satisfactory results. Indeed, he claims almost a radical cure of these cases. He does not hesitate to attack the disease even when far advanced. This paper is an ably written one.

The Wisconsin society has collected a large amount of clinical material in its report, including a number of curious and interesting cases. A perusal of these transactions enables us in a measure to appreciate the vast clinical resources of the country, which might be made available to every physician could they be accumulated from all quarters at one or two great centres and thence distributed in periodical form over the whole country. We have material for making a few first-class medical journals, which, owing to the immense size of the country, its varied climatic and social conditions, could offer an amount of interesting and instructive reading such as no European journal could furnish. Under the present system the fruits of a writer's labors are rarely seen beyond the limits of circulation of a local newspaper.

The Medical Society of Virginia has acted wisely in incorporating its transactions with the January number of the *Virginia Medical Monthly*. The Massachusetts Medical Society has adopted a similar policy for a number of years. This is a step in the right direction, but it would be of little advantage to stop here. The question of centralization in journalism is one which we hope will soon follow this period of literary inflation, which seems to have spread with all the vigor of a virulent epidemic over the Old World as well as the New. In spite of the almost certain failure which may be predicted of any new journalistic enterprise to-day, we constantly see additions to a list which has already outgrown the demand for reading matter. This condition of things is brought about, as we have already shown, by personal and selfish motives which alone stand in the way of an arrangement which would enable all parts of the country to be brought into free communication with each other. We commend this subject to the consideration of the association of editors as a fit subject for discussion at its meeting in Chicago this spring.

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### CORONERS.

THE sub-committee of the judiciary committee of the Massachusetts legislature, to whom was assigned that portion of the governor's address relating to the proposed changes in the present coroner system, has held two sessions during the past week. The legal aspects of the case were most ably presented by Theodore H. Tyndale, Esq., a lawyer of this city, whose admirable paper on the subject, recently read before the Department of Health of the American Social Science Association, has already appeared in this journal. Attorney-General Train and Mr. J. Lewis Stackpole also advocated the necessity of a change in the law as it now exists. The medical side of the question was presented by a committee of six of the councilors of the Massachusetts Medical Society, of which Dr. Cogswell, the president of the society, was the chairman. No opposition to the proposed changes was made except by three or four

of the coroners, to whom, of course, the proposed reform means a diminution in their annual income. It is a matter of regret that Coroner Treadwell should have seen fit to make the statements he did as to the cause of the present popular demand for a change in the coroner system, statements which he either knew were false at the time he made them, or which showed his utter ignorance of the demand for a reform, which was advocated in this journal as early as 1864, and which has for some years been called for by the profession. Several years ago a similar effort was made to change the coroner laws, but it was defeated, owing to the combined action of the coroners, with whom it was then as now largely a matter of dollars and cents. We were glad to see that the statement of Dr. Treadwell was at once contradicted by Mr. Pillsbury, a member of the committee, a contradiction which the card of Dr. Treadwell, subsequently printed in some of the daily papers, in no way controverts.

The last week has also placed on record the verdict of a coroner's jury that the deceased came to his death by "the hands of some person unknown," notwithstanding that the published facts of the case strongly pointed to suicide. In this case it will be remembered that the deceased held policies in at least two companies, and that the testimony presented at the recent investigation into the conduct of Coroner Newton showed the importance of the exercise of the greatest care in the conduct of all inquests in cases in which the question of life insurance is involved.

The special investigation of the charges preferred against Coroner Newton was postponed for a week, owing to the severe illness (certified to by Drs. J. B. Treadwell, Pattee, and Barrett) of the defendant. We shall therefore postpone any detailed account of the charges, which thus far appear to be proven, until the investigation is concluded. Meanwhile Coroner Newton has sent in his resignation, which the governor and council have very properly declined to take action upon until the evidence as to his gross unfitness for the position has been made public.

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#### MEDICAL NOTES.

— The annual catalogue of Syracuse University, in New York, shows that the medical department has adopted this year the "graded" system of instruction. Since 1872 this system has been optional; it is now compulsory. An examination for admission is also required. Each year's course represents a full year's work, the two terms lasting from October to July. Examinations are held at the end of each year. We most heartily wish the faculty success in carrying out this plan. In striking contrast to this system we find, according to the *Syracuse University Herald*, that a young man twenty years of age, a student in the medical department, who could not have graduated at that school until June, 1878, by attending a course of lectures at a prominent New York school this winter has been able to obtain his diploma. "The graded system" of medical education adopted by two or three universities in this country is in our opinion the minimum which should be required for a good medical education. What sort of an education do the New York schools give, and what might they not be able to give under a proper system with their varied clinical advantages?

— Dr. Gurdon Buck, who died recently in New York, was born in 1807. After a thorough preliminary education he became a student of the late Dr. Thomas Cock, and graduated from the College of Physicians and Surgeons in 1830. He was afterwards an interne in the New York Hospital, whose new building was formally opened a few days since. He subsequently passed two years in study at the medical centres of Europe, and on his return he was appointed attending surgeon to the New York Hospital. He had also several other important hospital appointments, the latest being that to the Presbyterian Hospital. Dr. Buck was a Fellow of the Academy of Medicine. He was also member of the New York Pathological Society, of which he was at one time president, and of the county Medical Society, the State Medical Society, and the American Medical Association. He is perhaps best known for his method of treating fractures of the thigh by weight and pulley, the value of which has long been appreciated in this country and is now coming into vogue in Europe. His Contributions to Reparative Surgery, which we have but lately received, embodies the work done by him in this field during many years of labor, and is illustrative of his skill and perseverance in tedious and difficult cases. Dr. Buck was highly respected by the profession throughout the country. Two of his sons, Dr. Albert H. Buck and Dr. Francis D. Buck, are practicing physicians in New York.

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#### LETTER FROM NEW YORK.

MESSRS. EDITORS, — I see by the papers that a new bill has been introduced into the state legislature to regulate the practice of medicine and to protect the people against quackery. The main features of the bill are as follows: I. It requires every person practicing medicine or surgery to record his name in full, place of residence, name of college or society granting him a diploma or license, together with the date of same, in a book kept for the purpose by the secretary of the Board of Health (if he lives in New York), or by the clerk of the county in which such practitioner resides, and that such books shall be open to the inspection of any one so desiring. II. It provides that every one, except graduates of a chartered medical school or licentiates of a chartered medical society, shall be required to obtain a certificate from the board of censors of one of the chartered medical societies in the State that he is qualified to practice medicine. III. The secretary of the board of censors of any chartered medical society may summon any one, not being a graduate of a chartered medical school or a licentiate of a chartered medical society, to appear before the censors for examination, etc. IV. It is declared a misdemeanor for any one to practice medicine or surgery in the State without a proper diploma or license, or with one illegally or fraudulently obtained, and that any one found guilty of such misdemeanor for the first offense shall be fined not less than two hundred nor more than three hundred dollars, and be imprisoned until such fine is paid, the fine to be not less than four nor more than six hundred dollars for any subsequent offense. All fines shall be paid into the treasury of the medical society making the complaint. The provisions of this bill are similar to those in the bills of 1872 and 1874, except in re-

gard to the fine and to whom it shall go. There is no question as to the urgent necessity of some law, especially in a city of the size and character of New York, to protect the public from adventurers in medicine. For the past year the censors of the county medical society have been trying to suppress irregular practitioners, under the law of 1874, and although something has been accomplished, yet the work is so great and the uncertainties of the laws are so many that it is asking too much of any society to undertake it. It seems as though it should be a matter to be attended to by the state authorities rather than to be left to the chartered societies.

Within the past three weeks the three medical colleges have held their annual commencement exercises, and if one may judge of their prosperity by the number of graduates, they seem to be in a flourishing condition. On the 20th of February the University Medical College held its thirty-sixth annual commencement, and gave diplomas to one hundred and fifty-seven students. Next came the commencement exercises of Bellevue Hospital Medical College, which were held on February 21st, being the sixteenth anniversary; one hundred and forty-seven students were graduated. The College of Physicians and Surgeons celebrated their seventieth annual commencement on the 1st of March, and graduated one hundred and eighteen students.

It is worthy of note that in their address before the graduating classes of the University and Bellevue, Bishop Quintard and Dr. McCosh both advocated a higher standard of medical education and a more strict demand for a classical training from those applying for admission into the medical schools. There is a feeling among the profession at large, and even among those connected with the colleges, that there should be a change in the mode of medical instruction, and that the schools should be placed upon a more sure financial basis. The support of the medical colleges, as well as the remuneration of the instructors, is dependent on the number of students. Such being the case, any move in the direction of more strict requirements, either in the terms of admission or graduation, would be found to reduce the income of the college making the change, and any united action of all the schools cannot be hoped for. An attempt was made, three years ago, among the friends of the College of Physicians and Surgeons, to raise a fund of two hundred and fifty thousand dollars, the income from which was to be expended in providing a laboratory for instruction in chemistry, physiology, etc., in connection with the college. According to the statement of the president of the alumni association, only sixteen thousand dollars have been obtained. It would also appear from the statement of the same gentleman that the present college building is scarcely large enough to carry on in a proper manner its course of instruction, and even if a sufficient fund could be raised, the income from which would be ample to provide the necessary apparatus, there is no room in the college that could be spared, and the prospects of any change in the location are very small.

The same statement in regard to an endowment fund will apply to the other colleges. Bellevue leases the building it occupies from the Commissioners of Charities and Correction: the university holds the title to its college building, which is, without doubt, the best in the city, and the Twenty-Third Street school controls its building, but it is too small, and is not adapted to the require-



ments of a medical school of the present day, having the number of students that it has.

It seems rather strange that while other institutions of learning have received ample contributions to their permanent funds, while hospitals, asylums, and homes are receiving legacies, the medical schools in New York seem to have been entirely forgotten. May not one reason be that the general public are apt to look upon them as private enterprises, and that their real needs and requirements have not been brought to the notice of those who are able and willing to give? All the schools have prize funds, but no permanent funds.

Quite a sensation was created a few weeks ago by the statement in the daily papers that four female inmates of the Epileptic Hospital on Blackwell's Island had died suddenly, either from poison or malaria. The buildings in which cases of this class are placed are situated at the upper part of the island. They are one-story pavilions without cellars, and are placed upon what was formerly a marsh filled in with garbage. That a hospital should be built on such ground is a disgrace to any community, and calls loudly for the creation of some board to oversee such institutions. An investigation by such a board into the sanitary condition and surroundings of other charitable institutions might be productive of much good.

New York has again been called to mourn the loss of one of its distinguished surgeons. On Tuesday, March 5th, Dr. Gurdon Buck passed away at the ripe age of seventy, having been in active practice for nearly half a century. He was born in the city in 1807, graduated from the College of Physicians and Surgeons in 1830. He then went abroad, and on his return began to practice his profession in New York. In 1838 he was appointed one of the surgeons to the New York Hospital, which position he held at the time of his death. He was chiefly known as a surgeon, and to this, his favorite branch, he brought all the skill of a thoroughly educated mind. He was noted for his sound judgment and extensive reading, added to an ardent love for his profession and a zealous regard for its advancement and honor. He was conscientious in the discharge of his duties, both to his patients and the profession at large. He hated quackery or any semblance of charlatanism. He was not a brilliant operator, but his results were equaled by no other surgeon in the city; his careful attention to every detail in the after-treatment of his cases contributed in no small degree to their success. As a hospital surgeon he was noted for the care he bestowed on those committed to his charge, spending many hours a day in the personal supervision of his cases. He was for a number of years surgeon to St. Luke's Hospital, and at the time of his death was one of the consulting surgeons to the R  osevelt. He was a frequent contributor to the medical journals. His writings have always been noted for their clearness and originality, and have always commanded the careful consideration of the profession. Of late years he has paid especial attention to plastic surgery, and his personal experience in this branch he has just published in a book, *Contributions to Reparative Surgery*. His death was not unlooked for, as it was well known that he had been suffering for some time from chronic disease of the kidneys. It is true of him that he has left no more honorable man behind him.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MARCH 17, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	495	23.89	27.46
Philadelphia	850,856	308	18.81	22.88
Brooklyn .	527,830	215	21.18	24.31
Chicago . .	420,000	145	17.95	20.41
Boston . .	363,940	152	21.72	23.39
Providence	103,000	27	13.63	18.34
Worcester .	52,977	15	14.72	22.00
Lowell . .	53,678	32	30.99	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370	15	15.48	22.04
Lawrence .	37,626			23.32
Lynn . .	34,524	15	22.59	21.37
Springfield.	32,976	8	12.62	19.69
Salem . .	26,739	16	31.12	23.57

CITY HOSPITAL APPOINTMENTS. — Drs. J. B. Upham and F. E. Oliver have been appointed on the board of consulting physicians and surgeons in place of Drs. John Jeffries and C. E. Buckingham, deceased; Drs. Thomas Dwight and W. P. Bolles, surgeons to out-patients, and Drs. A. L. Mason and A. M. Sumner, physicians to medical out-patients.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday evening, March 31st, at seven and a half o'clock. The following papers and cases will be read: —

Dr. T. B. Curtis, The Metric System.

Dr. E. H. Bradford, The Treatment of Hip Disease.

Tea, etc., at nine o'clock.

BOOKS AND PAMPHLETS RECEIVED. — On some Conditions, Physical and Rational, in Effusions of the Pleura. By Beverley Robinson, M. D., Surgeon to the Manhattan Eye and Ear Hospital (Department of the Throat), one of the Physicians to the Charity Hospital, New York. (Reprinted from the Medical Record, Nos. 325 and 326.) New York: William Wood & Co. 1877.

First Annual Report of the State Board of Health of the State of Wisconsin, for the Year ending December 31, 1876.

Compulsory Medication of Prostitutes by the State. Republished from the Westminster Review, July, 1876, by the New York Committee for the Prevention of Licensed Prostitution, Mrs. Abby Hopper Gibbons, President, 111 West Forty-Fourth Street New York.

Report of the Managers of the State Asylum for the Insane at Morristown, N. J., October 31, 1876.

Acts for the Organization of the above.

An Atlas of Topographical Anatomy. By Wilhelm Braune. Translated by Edward Bellamy, F. R. C. S. Philadelphia: Lindsay & Blakiston. 1877. (From A. Williams & Co.)

Myelitis of the Anterior Horns. By E. C. Seguin, M. D. New York: G. P. Putnam's Sons. 1877. (From A. Williams & Co.)

Sixty-Third Annual Report of the Trustees of the Massachusetts General Hospital for 1876. Boston. 1877.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVI.—THURSDAY, APRIL 5, 1877.—NO. 14.

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## CONSTANT IRRIGATION IN CHRONIC CYSTITIS.<sup>1</sup>

BY CALVIN ELLIS, M. D.,

*Jackson Professor of Clinical Medicine in Harvard University.*

It is well known that in cystitis, sooner or later, the products of inflammation are liable to decompose in the bladder, and that, as a consequence, the urine becomes ammoniacal and, in turn, by its irritating properties, increases the inflammation.

The most important question in connection with treatment is, How shall this vicious circle be broken? In some cases, where the cause is no longer acting, success in this direction is followed by recovery; and in others, dependent upon causes which cannot be removed, great relief is obtained.

The difficulty of meeting the question is sufficiently shown by the means adopted for keeping the bladder empty, such as dilatation of the urethra and vaginal cystotomy in women, and perineal cystotomy in men. It is certainly desirable that the same end should be reached by simpler means, which would secure the complete removal of the products of inflammation, as well as the urine itself, before either had time to undergo decomposition. The latter takes place so rapidly that intermittent irrigation, so long in use, often proves ineffectual. It therefore seemed desirable to try the effect of a constant current of warm water through the bladder. The following two cases show the results obtained. Though not so complete as could be wished, the examination of the urine still showing some of the products of inflammation of the bladder, and though the trouble may return, the patients were made so comfortable as to justify the publication of the cases, in order that a knowledge of the results might secure a more extensive trial by others, and establish the value of the proceeding much sooner than it could otherwise be done.

CASE I. On October 6, 1876, a woman, twenty-four years old, who had been employed as a cook, entered the Massachusetts General Hospital. Although she had been married more than six years she had never been pregnant, but had been well except for the dysuria on account of which she entered. This began six years before, being pre-

<sup>1</sup> Read before the Boston Society for Medical Improvement, March 12, 1877.

ceded by nearly constant dull pain in the back, also at times in both iliac regions and in the hips, always worst at night.

About two months after the pain began micturition became frequent and painful, and so continued. She was always obliged to pass urine from two to four times in the night, and had a burning pain during micturition. Finally, the burning sensation became nearly constant. It seemed to be in the neck of the bladder, and was worst just after micturition, which was sometimes attended by straining. During the past two or three months she had often passed gravel, the pieces sometimes being as large as a bean. The menses had always been regular, lasted from three to four days, and were not particularly painful, though the trouble with micturition was generally worse at this time. There had been much headache for some years. At times within two months the feet had been so much swollen as to prevent her putting on her boots. Any unusual exercise caused palpitation and dyspnoea.

She had done no work since June, 1876. The appetite was poor, and she had lost flesh for a year and a half. The bowels were regular. Sleep was disturbed by pain and the necessity of rising to pass urine.

She entered the hospital under the care of Dr. G. G. Tarbell, who reported no distention of abdomen, but marked tenderness on pressure or percussion over the region of the bladder. Uterus high in the pelvis; apparently normal, with the exception of slight ulceration about the os; not tender on pressure, though pressure on bladder caused great pain. There was a peculiar purplish appearance of the os and surrounding vaginal wall. Carbolic acid and glycerine were applied to the os, and the bladder was syringed twice daily with a solution of carbolic acid, one part to one hundred and twenty.

At this time the *urine* was turbid and *alkaline*; specific gravity 1019; albumen one per cent.; sediment abundant. An examination with the microscope showed pus, blood, bladder epithelium, and crystals of triple phosphate. A week after, October 15th, it was reported that the introduction of the catheter, as well as the injected fluid, caused much pain, but the latter was followed by a sense of relief which lasted two or three hours. The water injected came away bloody, and contained coagula, which clogged the catheter so much as to require removal frequently. Micturition was still frequent.

It was directed that the bladder should be washed out with flaxseed tea three times a day. The urine at this time was high colored, slightly *alkaline*, specific gravity 1020, albumen two per cent. There was a heavy deposit of pus and blood, and in addition to this the microscope showed degenerated bladder epithelium and crystals of triple phosphate.

October 22d. Micturition was as frequent as before, but there was less tenderness of the bladder on pressure above pubes and by the vagina. There was also much less blood in the water after syringing.

On October 29th the urine drawn before syringing was clear at first, then contained clots, and then was free from blood. The water used in syringing was sometimes tinged with blood, but more frequently was clear.

On November 2d the patient came under my care, and injections with the same solution of carbolic acid were ordered to be given every half hour during the day, the double catheter being allowed to remain. These injections were made by means of a bottle suspended at the head of the bed, perhaps eighteen inches above the level of the pelvis, but the height was regulated so that the pressure did not cause pain.

On November 3d the report was that irrigation had been used from two till nine P.M. The water which escaped was always tinged with blood, and a few small coagula were seen.

On November 4th the catheter had been well borne, though kept in the bladder from 7.30 A.M. till 8.30 P.M. She had been obliged to pass urine but twice during the preceding night. The water which escaped was much clearer than when irrigation was first used. The urine which passed this morning after the night's rest contained comparatively few coagula, and was much clearer.

On November 5th the water which escaped from the bladder had still a reddish tinge, but only a few small clots were seen.

On November 6th the injecting fluid which escaped was quite clear, but the urine which collected during the night was dark colored and contained much sediment. It was turbid and still alkaline; specific gravity 1021; albumen one and one half per cent.; sediment very abundant, largely blood. The microscope still showed pus, blood, bladder epithelium, and crystals of triple phosphate.

On November 8th the urine passed the night before was much clearer, and there was less deposit.

From the 8th to the 17th the urine presented about the same appearance, and the patient was comfortable.

On the 19th the catheter was left out, and there was some increase of pain the morning following.

On the 22d, as there was some irritation and blood had reappeared, the catheter was again left out. She continued, however, to complain of pain in the back and hypogastrium, and the catheter was reintroduced on the following day, with relief. During the week preceding the 24th she had more or less loss of appetite, and nausea, and vomited once or twice.

On the 27th the urine was darker colored and contained a few clots.

On the 29th the appetite was good, and she felt better than for two weeks.

*On November 30th constant irrigation day and night was ordered.*

On December 3d the carbolic acid was omitted, and water of about

the temperature of the body was substituted. On the night of the 4th the catheter was omitted, in order that the condition of the morning urine might be ascertained. The latter, on the morning of the 5th, had the normal color. The sediment was moderate in amount and less dense.

On the 12th it was turbid, of normal yellow color, *acid*, specific gravity 1020; albumen one fourth per cent. Sediment moderate, but still containing pus and bladder epithelium.

On the 15th the catheter was omitted at two P. M., and was not introduced again until the following morning. She was obliged to rise but once during the night to pass urine. The catheter was again omitted at the same hour on the 17th. An examination of the urine on the morning of the 18th showed that it was still acid; there was only a trace of albumen. The sediment consisted of a light cloud, containing pus and bladder epithelium, less marked than before.

On the 19th, after a similar omission of the catheter, the sediment occupied only about an inch in the glass (about eight ounces), and was simply a light cloud, as before.

On the 22d irrigation was omitted from nine A. M. until 7.30 A. M. on the following day. During this time she was up, and perfectly comfortable. She stated she had not had so comfortable a day for six years. She had been obliged to rise once in the night, but the irritation was less than formerly. The urine was about the same as on the 10th.

On November 23d irrigation was omitted twenty-four hours. She was perfectly comfortable, passed urine but once in the night, of about the same character as before.

After free irrigation with a solution of carbolic acid (one part to one hundred and twenty), on the afternoon of the 24th the catheter was withdrawn.

On the 26th she reported that she had been obliged to pass urine but twice during the day and once at night, but its passage was accompanied by some irritation. The urine of this date showed twice as much sediment, of the same character as before.

On the 29th it was still acid; specific gravity 1018; albumen one fourth per cent. The sediment was half an inch in depth, but was very dense, and pus was quite abundant.

On the 30th she felt as well as before, though the urine still contained the increased amount of pus as the previous examination.

On the 31st, as she had had some pain in the region of the bladder, irrigation was recommenced.

The pain persisted until the morning of the 4th of January, when the urine was acid; specific gravity 1019; albumen one fourth per cent. The sediment was dense and half an inch in depth, and contained much pus.

On January 9th, after omitting the catheter twenty-four hours, the urine appeared the same as on the 4th, but on the 11th the sediment was less than ever before, and appeared in the form of a light cloud half an inch deep. On this day the patient left the hospital, feeling perfectly well.

CASE II. A married woman, thirty-two years old, a native of Ireland, entered the hospital on December 4, 1876. She had had three children, the last two years before. After the birth of this child, and taking cold, she thinks, she began to have frequent and painful micturition, and to pass blood with the urine. No pain at other times. No fever. These symptoms continued, though at the time of entering she passed less blood than before. She was obliged to get up two or three times in the night, and there was constant soreness about the meatus. Though never confined to the bed, she had lost some flesh and strength. Appetite fair. Bowels regular. Complained of sharp, cutting pain, which obliged her to empty the bladder frequently, though the pain was worse during and after the passage of urine. She could at times resist the inclination, and the pain would pass off, but at other times the urine would escape involuntarily. She had also passed a substance resembling mortar, which occasionally would cause temporary obstruction.

The mucous membrane about the meatus was somewhat swollen, but the catheter passed without pain.

*Urine* yellow and turbid; specific gravity 1025; *alkaline*; albumen one per cent. Sediment abundant, consisting of pus, blood, bladder epithelium, and crystals of triple phosphate.

On December 10th constant irrigation with the double catheter was begun, as in the preceding case, and was continued twelve hours daily for three days. She suffered only from the introduction of the catheter, but the urine escaped at times around it. She had forcing pains when standing erect. On the 12th a small fragment of mortar-like material was found in the catheter.

An examination of the urine on the morning of the 13th, after the catheter had been omitted twelve hours, showed the color to be normal; specific gravity 1024; *alkaline*; albumen one half per cent. Sediment much less than before, containing mucus, pus, blood, and crystals of triple phosphate.

On December 16th the patient was seen by Dr. Minot in consultation, and the bladder was explored, but no calculus was found.

Irrigation was then resumed, and continued without intermission during the twenty-four hours. She bore the catheter well, and there was less escape of urine around it.

On the 22d, after omitting the catheter during the night, the urine was found to be of a normal yellow color, cloudy, and *acid*; specific gravity 1024; a marked trace of albumen. The sediment was much

less dense than before, and contained pus, a few blood corpuscles, and bladder epithelium.

The nurse reported more clots on the previous day than before. The patient was obliged to rise twice in the night to pass urine, but had no pain.

On the 26th, the catheter having been omitted twenty-four hours, it was reported that the urine had been passed but once during the day and once in the night. It was cloudy, *acid*; specific gravity 1023; only a trace of albumen. There was but little sediment which contained a few corpuscles and bladder epithelium.

On the 28th the irrigation was again omitted twenty-four hours; the patient was up and about, and passed urine but three times, its passage causing some irritation.

*On January 12th the catheter was withdrawn, and was not introduced again.*

On the 14th the dribbling noticed on the 7th, after the temporary removal of the instrument, had ceased, and there was no irritation in the neighborhood of the bladder, but there was some pain in the back, and she was obliged to pass urine three times during the night and twice during the day.

Between December 28th and January 15th the urine was examined several times, the variations being in the amount rather than in the character of the sediment.

On January 15th the urine was cloudy, acid; specific gravity 1019; a trace of albumen. Less sediment than ever before, containing a few scattered pus corpuscles.

She was about the ward, and the urine continued about the same until she was discharged, January 23d. On February 6th the patient wrote that she had been comfortable since returning home, with the exception of pain in the "small of the back."

It will be noticed that the urine in both cases was alkaline until the irrigation was constant, that it soon after became acid, and so continued while the patients were under observation. While pus was still formed the blood disappeared, and none was found in either case for some time before the patient left the hospital. The time necessary for the change from alkaline to acid may be much shorter than is shown here, but a number of cases are necessary for a complete demonstration. The partial irrigation at first employed may have been instrumental in bringing about the result, but much of the time spent in this way was probably lost. Through fear of interrupting the continued irrigation too soon it may have been continued unnecessarily long before testing the urine. But when the latter was found to be acid it was too late to ascertain *how soon* it became so. We only know that it was so in six days. Other cases are needed in which the urine can be tested in five, four, three, and two days after the commencement of constant irrigation.



In regard to the apparatus, nothing more is needed than a vessel to hold the water, a double catheter, and sufficient india-rubber tubing to convey the water to and from the bladder. The flow may be regulated either by a stop-cock attached to the reservoir, or by some compression of the tube. The position of the vessel should be such as not to cause pain by excessive pressure, but it is desirable that the bladder should be fully distended at times, in order that the whole surface may be thoroughly cleansed. Patients may learn to do this by simply compressing the efferent tube from time to time. The quantity of water needed is about a barrel in the twenty-four hours.

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### ERYTHROXYLON COCA.

BY G. ARCHIE STOCKWELL, M. D.

COCA is the dried leaf of the shrub *Erythroxyton coca* or *Erythroxyllum Peruvianum*; order, trigynia; class, decandria; habitation, mountainous districts of Peru and Bolivia, two thousand feet and upwards above the level of the sea.

To the native Peruvian and Bolivian coca holds the same relation as the betel-nut to the Malay, the tea-plant to the Celestial, poppy and Indian hemp to the Oriental, and tobacco to the Caucasian. To it he is as much the slave as were Dr. Johnson and Gilbert Stuart to rappee. Beyond the confines of the country to which it is native but little seems to be known of coca; nevertheless it is, without doubt, one of the most remarkable products of the torrid zone. When we consider its peculiar properties, it is astonishing that it has so long remained unnoticed. Were it a product of the jungles of interior Africa, or extremely difficult to obtain, this neglect could be accounted for; on the contrary, hundreds of European and North American vessels annually frequent the harbors of Peru and Bolivia, or the metropolis of the Amazon, where it may be obtained in large quantities, and where it has been as long known as the cinchona; yet the tonic, stimulating, and narcotic properties of this shrub are just beginning to attract the attention of the medical world.

Like the cinchona, the peculiar powers of coca have been introduced to the notice of the Caucasian by the aboriginal inhabitants of the country to which it is indigenous. No historical record informs us when it was introduced to their notice, or who first discovered the hidden properties of its leaves. When the empire of Atahualpa was overthrown by the rapacious Pizarro, coca was as well known to the Peruvians as at the present day, and played an important part in their religion, being used in all public ceremonies as an offering to the sun god.

Although found in a wild state, like most other shrubs it is enhanced

in value by cultivation, and hence none but the carefully nurtured, domesticated variety finds its way to market. The sultry valleys of the eastern slopes of the Andes are most favorable to its growth, and it is here that a most systematic method of cultivation is adopted, the plant being raised from the seed. When the young shoots have attained a height of about fifteen inches they are transplanted in rows a foot or more apart; when full grown they rarely exceed sixty-four or seventy inches in height. As it thrives best in damp situations, sheltered from the sun, it is customary, when such localities are not available, to plant maize between the rows because of its rapid growth, its leaves soon furnishing the required shelter. Certain species of palms are used for the same purpose. If no rain falls, the shrublets are subjected to copious and repeated drenchings. Like the coffee-tree, coca has a lustrous green foliage with white blossoms, which ripen into small red, or rather scarlet berries. When the shrub has attained an age of eighteen or twenty months the foliage is stripped for the first time, the leaves now presenting an appearance not unlike those of the tea-plant, being oval, pointed, and two or two and a half inches in length, with half that breadth at the widest part, and furnished with short, delicate footstalks; unlike those of the tea shrub, they are not dentate, and may be readily distinguished by a curved line running from base to apex upon either side of the midrib. The foliage is known to be ripe for plucking when the leaves become sufficiently brittle to break upon bending. After stripping, the leaves are spread out to dry upon woolen blankets in the sun, great care being taken to prevent absorption of moisture, which is known by the leaf acquiring a brown tinge; when properly cured it retains a pale-green color. When the curing is completed the coca is packed in bundles or sacks of an *arroba* (twenty-five pounds) each, and carefully covered with dry sand until desired for the market.

The naked shrub soon produces a new foliage, which in turn is ready for plucking in three or four months; so that in favorable situations three or four crops are gathered each year from the same shrub, but in the higher altitudes the planter must be content with a single crop. With proper care the shrub is productive for forty or fifty years without the *cocales*, as the plantations are designated, being renewed. The only enemies of the plants are the ants and moisture. The former are much more troublesome pests than with us, and speedily destroy a plantation, while the latter either entirely spoils the dried leaf or renders it of inferior quality. When well dried the leaves possess an agreeable odor, with a slightly bitter aromatic flavor, closely allied in taste to inferior green tea.

Although there is little or no foreign demand for the article, the local consumption is immense. Not only do the Indians of Peru and Bolivia esteem its use as one of the prime necessities, but it plays a most im-

portant part in the economy of life with a goodly portion of the white population, and also of the choloes, mezitoeos, and negroes, who are never seen without the leathern pouch in which to carry the leaves, and the attendant gourd holding powdered unslaked lime, the sharp ashes of the quinoa, molle-tree, or those of the plantain. Three times a day at least will the *coquero* suspend all labor to indulge in his favorite luxury. Taking a few leaves from his pouch, he removes the midrib, and carefully masticates them into the shape of a small ball which is known as the *acullico*; then, withdrawing the wooden stopper of the gourd, he conveys to his mouth by means of a sharpened stick a small portion of the alkali, and repeatedly stabs the *acullico* until the desired flavor is obtained, at the same time avoiding all contact with his lips; when the two are thoroughly incorporated, the *coquero* lies upon his back with half-closed eyes and gives himself up to the full enjoyment of rumination for about forty minutes. So accurately is this time observed that the Indians, when traveling, measure distance by it, one *cocceada* being about equal to the time occupied in walking two English miles.

It is a remarkable fact that those who regularly use the coca require but little food, and with increased indulgence are enabled to undergo the greatest fatigues without tasting anything else. Pöppig ascribes this astonishing increase of endurance to a temporary excitement, which must necessarily be succeeded by a corresponding collapse, and therefore asserts that the use of coca is highly injurious. This is in accordance with the exploded attempt to apply the dynamic law that "action and reaction are equal and opposite" to the phenomena of stimulation. Those who are ignorant of the physiological action of stimulant narcotics repeatedly affirm that tobacco, opium, hemp, alcohol, coca, and kindred drugs which are used as stimulants produce a corresponding recoil, whereas the so-called recoil is simply the advent of narcosis, owing to a large impregnation of the blood with the agent after stimulation from a small dose. Coca never produces a depressing action, except as the result of an overdose or of small quantities so frequently repeated as to cause the narcotic effect by accumulation. Careful observations lead me to believe that, so far from being injurious, the moderate consumption of coca is not only wholesome but frequently beneficial. Tschudi cites as examples several Indians who, never allowing a day to pass without at least three *cocceadas*, attained the truly patriarchal age of one hundred and thirty years. As the ordinary food of the native Peruvian consists almost exclusively of roasted maize, barley, or seeds of the quinoa, which are eaten without any addition, they suffer with frequent and obstinate obstructions and derangements of the digestive system, which are entirely obviated by the use of coca. From the time the native becomes a *coquero* these troubles cease, never to recur, except with the abandonment of the habit.

Travelers in the Andes have found in coca a preventive of those asthmatic symptoms that are produced by the rarefied air of high altitudes. Tschudi invariably drank a strong infusion before undertaking his hunting excursions in the Puna, fourteen thousand feet above the sea level, and not only found it to afford great relief, but asserts that he suffered no greater difficulty in breathing while in the rapid pursuit of game than would have been the case upon the coast.

Although the moderate use of coca is thus beneficial, its abuse is attended with serious results, and if persisted in the digestive functions are deranged, and there is brought about a structural degeneration of nerve material, the consequences of which are to be seen in delirium, brain softening, and general paralysis. The permanent pathological effect induced does not allow of as ready an impression by the drug as before; hence the coquero continually demands more and more of his accustomed narcotic to produce the desired effect. Such a man may be readily distinguished by his trembling limbs and hollow cheeks, his sunken, lustreless, black-rimmed eyes, sallow complexion, incoherent speech, and stolid apathy; seemingly oblivious to all surroundings, he neither notices a friend nor fears a foe. His character is irresolute, suspicious, and false; in the prime of life he has all the appearance of senility, and in later years he sinks into complete idiocy. With the confirmed coquero no increase of temperature or acceleration of the circulation is induced by the use of the drug; on the contrary, the heart's action is slow and intermittent, and the pulse thin and thread-like. The forehead is frequently clammy and cold, while the extremities may be at a fever heat. The symptoms point strongly to the medulla oblongata as the part affected, which undoubtedly becomes partially paralyzed. In moderate doses, coca causes increased arterial action, stimulates the alimentary secretions and peristaltic action, diminishes weariness, strengthens the pulse, calms nervous excitement, retards waste, facilitates repair, alleviates spasms, and increases mental activity; in fact, it is an economizer of vital energy and an effective aid to nutrition. It invariably contributes to mental cheerfulness, and withal not unfrequently causes unequivocal aphrodisia. Although one cannot look upon coca as a food, it will be found second only to alcohol in its food-replacing power; for this reason it will undoubtedly prove of value in low forms of fever. In larger doses it has a decided action upon the kidneys, producing also watery stools, and, when long continued, gives to both urine and feces a highly offensive odor, and renders the latter so acrid as almost instantaneously to destroy all vegetation with which they may come in contact; it also renders other excretions, as those of the lungs and skin, offensive. In these large doses it does not seem to affect the visual organs, as the pupils will be found freely contractible on the approach of light, and unless the doses are very heavy the eye presents an ex-

pression of combined merriment and cunning. Hunger seems never to be induced, but rather the contrary; yet if the patient be coaxed to partake of food set before him he eats voraciously.

According to one writer, loosened teeth with foul, ulcerous gums are among the effects of prolonged coquerism, and he cites as instances the Indians employed in certain of the mines of Peru, who, he discovered, not only consumed enormous quantities of coca, but "were afflicted with ulcerous gums, foul breath, and loosened teeth, the sufferings from which could only be allayed by death." The writer in question must have been woefully ignorant, or he has wantonly endeavored to mislead his readers, as the mines in question were the famous quicksilver workings of Peru. He speaks of them as silver, but ignores the fact that it was not argentiferous metal that was obtained, but mercury.

Of the physiological and therapeutical action of coca there is much to be discovered. It has been lauded as a hypnotic, yet its uncertainty of action will prevent its ever superseding the many other drugs of far greater value that we possess. It is, however, both anodyne and antispasmodic, exerting special influence upon the brain and spinal cord, and from its action upon the pneumogastric it will undoubtedly prove of benefit in certain forms of asthma. Its antispasmodic action has been vouched for by numerous South Americans. It is used by the natives to promote uterine contraction. Where inertia has supervened, I am told by Spanish American physicians that its effect is both speedy and certain. In melancholia, or where nervous depression exists, its action in promoting cheerfulness is marked, and its influence upon the digestive function, before noticed, will doubtless cause coca to be prescribed for many of the diseases of so-called dyspeptic character and those irregularities arising from non-assimilation of food.

It is said that certain of the Bolivian Indians inherit from their ancestors a mode of preparing and administering this drug so as to produce a cataleptic state so profound as to simulate death beyond detection, from which the patient may be aroused after the lapse of a few hours without serious results. I believe a mixture of cannabis indica, opium, and certain other narcotics is used for the same purpose by the initiated among Orientals.

Coca will produce sleep oftentimes when opium has failed if given in repeated small doses for a little time before retiring to rest, in order to allow the preliminary stage of excitement to pass off; but, as a rule, it is inferior to the opiates, its action being extremely variable.

For the last few years it has been fashionable to claim for every new drug a decided antiperiodic action, vaunting for it all the powers of quinia, and coca has not escaped. A careful and thorough experimentation with the drug will, however, convince the most incredulous that it possesses no antiperiodic properties. Administered in conjunction

with quinia it will, I doubt not, like opium, oftentimes prove a valuable adjunct. Give quinine to a confirmed coquero, at the same time depriving him of his solace, and you will frequently be disappointed in its results. Restore him his coca, and the action of the salt will be both speedy and certain. I have observed like results when prescribing for consumers of tobacco.

From the action of coca as observed, the writer would give it to a patient suffering from cholera with the expectation of happy results; its action is rapid, and vomiting and cramps would, I think, speedily yield to its influence. Larabie, Williams, and other travelers have experienced almost instantaneous relief from coca when suffering from cholera morbus. Dr. Carvallo informs me that he has observed similar results from an infusion, and has known even the chewing of the leaf to act favorably. I have witnessed the same effects myself. It would not be at all surprising if it were proven that the coca caused a marked increase of the biliary secretions. I should also expect marked results from it in congestive chills, particularly with flannels wet with ammonia spirits in which quinine had been dissolved to saturation, applied to the abdomen, as practiced in Central America. But it is in hypochondriacal diseases that we may look for the greatest benefit from coca.

I trust that the profession will thoroughly examine into the merits and demerits of the article, and give the full negative results of their investigations. I say *negative*, for that is the evidence demanded at the present day. We are overrun with positive evidence, all virtues being ascribed to all remedies to such an extent that we become lost in seeking information. What we now need to know is what medicines will *not* do.

It will probably be found that the dose required for our climate will be much larger than that demanded in Peru. The best mode of administering is in the form of an infusion, the dose being about two drachms. The greatest drawback to its use is the liability to gather moisture, which renders it worthless. The fluid extract I would have but little faith in, for obvious reasons. If an extract be made of erythroxyton coca one pound, rectified spirit four pints, prepared by maceration for seven days, pressing out the tincture and evaporating to a proper consistence, I think it would be satisfactory. The dose of such an extract should be one fourth of a grain to two grains or more.

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#### A NEW SYRINGE PISTON.

BY SAMUEL PETERS, M. D., AND F. S. PETERS, M. D., COHOES, N. Y.

A GREAT fault in hypodermic syringes as hitherto constructed is the rapid drying of the piston. As soon as the oil with which it is saturated when manufactured is removed by use, it dries so quickly that a

day or two is often sufficient to render the instrument unfit for use until the piston is removed, remoistened, and manipulated so that it will again fill accurately the syringe barrel.

Those who use the syringe daily or several times a day of course do not experience this difficulty. Even when the chamber above the piston is filled with water, as has been recommended very properly, the process of leaking and evaporation goes rapidly on, no provision being made for its prevention. At our suggestion, Messrs. Tiemann & Co., of New York city, have constructed a syringe with a reservoir for water or oil in the piston-rod and piston, with openings adjacent to, or rather under the leather constituting the piston, so that by capillary action the desired and necessary moisture is always and readily maintained. The piston-rod is made tubular and slightly larger, and fitted above with a screw-cap that effectually prevents evaporation; hence all the moistening material must be consumed in performing the work of saving the physician's time and temper, and permitting the speedy application of the remedy which he is generally in haste to administer. It may not be improper to state here that essentially the same thing, with additional advantages, has been accomplished by the same parties in a new syringe which carries the medicated solution always ready in the barrel above the piston, with a simple arrangement for transferring any desired number of minims below the piston ready for injecting. This is done in a single moment, and no time is consumed in drawing from a vial.

A cut and description of this last-mentioned instrument will be published shortly.

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## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

*Causes of Dropsy.* — Cohnheim and Lichtheim<sup>1</sup> have undertaken a series of experiments for the purpose of determining the relation of dropsy to a watery condition of the blood.

According to Bright, the essential cause of dropsy in diseases of the kidney was a watery condition of the blood, hydræmia, due to the loss of albumen through the kidneys. This statement was apparently corroborated by Magendie's experiment, the production of dropsy by the introduction of water into the veins. Later this view became necessarily modified by the observations of extreme dropsy coming on rapidly after scarlet fever, when but little urine and albumen were excreted; further, by the slight dropsy, or even by its absence, in chronic inter-

<sup>1</sup> Virchow's Archiv, 1877, lxi. 106.

stitial nephritis, notwithstanding a loss of albumen extending over a period of years. Recent experiments have shown also that œdema does not necessarily follow a watery condition of the blood.

The essential element in the production of the dropsy was then thought to be an absolute increase of the water in the blood, a hydræmic plethora, as distinguished from the relative increase of the watery part of the blood, the hydræmia, though the latter factor might also be of weight. This hydræmic plethora was considered to result from the accumulation of water in the blood, owing to the hindrance offered in the kidneys to its elimination, and this view seemed still more strongly supported than the theory of Bright by the experiment of Magendie. This view is also open to criticism, as a total suppression of urine may exist for several days without dropsy resulting, and in hysterical patients a scanty flow of urine may last for months without any dropsy supervening. Even Magendie's experiment offers no proof on account of the complications produced by the destruction of the red blood corpuscles with the water used.

The writers have repeated this experiment with the precautions suggested by modern investigations, and have introduced into the circulating blood of a series of animals, dogs and rabbits in particular, a six tenths per cent. solution of salt. In certain instances death followed rapidly from acute œdema of the lungs; in most cases, however, death was more gradual from insufficient decarbonization of the blood and cardiac paralysis; œdema of the skin, the first and most important sign of the so-called hydræmic œdema, did not occur, hence hydræmic œdema is not dependent upon hydræmic plethora.

The immediate effect of the introduction of the fluid was evidently a diminution in the soluble constituents of the serum, and this was found to be much greater than occurs in diseases of the kidney. Permanent alterations in the blood pressure did not occur, an observation previously noted by Worm Müller and explained by him as probably due to a stretching of the elastic walls of the vessels beyond their power of retraction. The rapidity of the blood current was decidedly increased. The most striking result of the experiments was the separation of water from the blood by the glands and as a transudation into the tissues. The urine, saliva, tears, bile, gastric and intestinal fluids were increased. The transudation into the tissues was determined in part by the rapidity of the lymph current and in part by the presence of œdema, the latter being likely to arise where the fluid was transuded from the blood vessels more rapidly than it could be carried away through the lymphatics. It was found that the hydræmic plethora produced an enormous acceleration of the flow of lymph through the thoracic duct, a decided increase in the flow through the cervical lymphatics, while in those of the extremities, the current was not even hastened. It became



thus evident that the hydræmic plethora produced almost exclusively an increase in the lymph coming from the viscera, while that from the skin and muscles was but little affected.

The relative increase of the water in the blood, hydræmia, producing in man a cutaneous dropsy, the hydræmic plethora or absolute increase of this water also produced an œdema but not of the subcutaneous cellular tissue. When a sufficient amount of the salt solution had been introduced, ascites appeared, also œdema of the gastro-intestinal mucous membrane and of the sub-mucous tissue of the mesenteric lymph gland, of the pancreas, kidneys, liver and gall bladder, and of the retro-peritoneal fibrous tissue. The submaxillary and sublingual salivary glands; the cervical lymphatic glands and fibrous tissue became œdematous, also the conjunctivæ and lachrymal glands. There was but little œdema of the thoracic cavities, and their contents and all the other organs, including the central nervous system, were free from œdema.

There is thus no correspondence between the primary localization of the œdema taking place in renal disease and that resulting from hydræmic plethora.

The constancy of the occurrence of the dropsy in the manner stated suggested that a common cause might be found in the function of these parts, to relieve the body of water. It was apparent that this œdema did not result from the mere dilution of the blood, but was mainly dependent upon the increase in the absolute amount of water in the blood. This may be considered as favoring the idea that the œdema was localized in consequence of the function of the parts. The vessels in such parts must normally be under different relations from those elsewhere in the body, from the fact that they are called upon to furnish the fluid necessary for the secretion from these parts.

It was not thought probable that the œdema of the skin in renal disease was an equivalent of the œdema produced in the experiments, dependent upon the function of the sweat glands, as the latter did not react by an increased secretion, as was the case with the abdominal viscera. Neither the hydræmic plethora nor the hydræmia as such were found to be sufficient to explain the origin of the œdema. It was only in certain vascular territories, the function of the wall being undisturbed, that transudation took place, when the volume of the circulating fluid was increased, while in most of the vessels no such reaction took place. It seems probable, however, that an œdema may occur when the vessel-walls are altered, particularly when the alterations are such as to produce a greater transmissibility in the wall. In those cases where the vessel-walls are altered and there is no transudation, the experiments showed that the latter occurs, and an existing œdema becomes increased when the blood is diluted. These considerations suggest that in man

the direct cause of the hydræmic œdema is to be found in an alteration of the vessels, particularly in those of the skin. This alteration of the vessels alone may not be sufficient under certain circumstances, but the hydræmia or hydræmic plethora may then be also required. At all events the extent of the œdema is likely to be dependent upon the degree of the latter factors.

The changeable character of the œdema in renal disease might seem opposed to this view, but apart from the disturbed function of the vessel-wall, the hydræmia and the hydræmic plethora, other factors are likely to favor the occurrence of the œdema. Such are slight venous congestions, especially those due to gravity, which are changeable according to the movements of the individual. Another changeable factor may be found in the varying congestions of certain vascular regions due to vaso-motor influence, which of themselves are not sufficient to produce an œdema.

If alteration of the cutaneous vessels plays so important a part in the production of the dropsy in renal disease, it is important to consider whether there may be any connection between diseases of the kidney and disturbances of the vessels in the skin. Such a connection is suggested by the probable inflammation of the skin in scarlet fever, often associated with disease of the kidney. The skin affection alone rarely produces an œdema, though exceptionally the alterations of the cutaneous vessels suffice to produce œdema of the skin without there being renal disease. The anasarca is very generally and rapidly brought about, however, when the renal secretion is disturbed and hydræmic plethora arises in consequence of the disease of the kidney. A relation between affections of the skin and those of the kidney is further suggested by the experiments of Koloman Müller determining the influence of the condition of the cutaneous vessels upon the urinary secretion, and by the frequently maintained origin of renal disease from taking cold. More direct evidence is furnished by the effect upon the kidneys of extensive burns of the skin and of varnishing its surface. A relation between injuries to the vessels of the skin and affections of the kidney is thus not impossible, but such does not apply to the pure hydræmic œdema met with in phthisical, cancerous, and other cachectic individuals. In these cases and also in a series of chronic renal diseases a long continued hydræmia undoubtedly affects the vessel-walls. The normal function of the latter is dependent upon the continuance of a normal circulation. When this is interrupted, even for a short time only, the wall suffers severely. Oxygen and the other constituents of the blood are doubtless necessary for the persistence of the normal function of the vessels. If the blood loses its solid constituents to a marked degree the vessel walls become injured slowly but surely, and then only does the œdema arise as the result of the hydræmia.

The writers close this article by reminding its readers that the views presented are not to be regarded as proven, but are offered as an explanation of appearances hitherto insufficiently understood.

*Air Embolism.*—Under the direction of Vulpian, Couty<sup>1</sup> made a series of experiments to determine the effect of the admission of air into veins, and describes the symptoms occurring in surgical cases. The heart was so prepared that its relation, before and after the entrance of air, could be observed. According to the writer the air on entering the vein did not go beyond the vertebral arteries, therefore the direct disturbance of the brain could not be the cause of death. The right side of the heart was not paralyzed, but its contractions were rather increased until the respiratory and muscular activity were lost, when it became quiet. The stoppage of the pulmonary circulation was not dependent upon air embolism of the pulmonary arteries, nor was it found that the main branches of the pulmonary artery contained air. A diminution, not an absolute cessation of the aortic current, occurred. It was considered that the pulmonary circulation was stopped by a disturbance of the heart's action. The air entering the heart remained in the right ventricle, which became doubled and trebled in size. The normal contraction being thus suspended, the foamy fluid was driven backwards through the open valves into the veins. This regurgitation continued in the fatal cases to the time of death, a diminution in the aortic contents being the result. The process was divided into four stages. (1.) A diminution in the aortic contents and in its tension with acceleration of the heart's action, but no general symptoms. (2.) Decided diminution of arterial tension, accelerated respiration and syncope. (3.) Little or no arterial current, irritation of the vaso-motor centres (spasms and convulsions), spontaneous evacuation of the urine and fæces, rarely deep respirations. (4.) No arterial tension, death of the brain and cessation of convulsions, respiration stopped, then the heart, this being always the last symptom.

*Effect of Hæmorrhage into Serous Cavities.*—The occurrence of a case of intra-thoracic hæmorrhage following an injury, where after fourteen days fluid blood was aspirated, which coagulated only after standing awhile, suggested to Penzoldt<sup>2</sup> the idea of attempting to determine experimentally the relation of the hæmorrhage into serous cavities to their walls.

From the prevalent theory of Brücke, that the influence of the normal living vessel-wall prevents the coagulation of the contained blood during life, and his statement that the walls of the lymph vessels present a similar relation, it seemed not unlikely that the blood should re-

<sup>1</sup> Gazette médicale de Paris, 1876, vi.; Centralblatt für Chirurgie, 1876, xlii.; Allgemeine medicinische Central-Zeitung, 1876, xc. 1104.

<sup>2</sup> Deutsches Archiv für klinische Medecin, 1876, xviii. 542.

main fluid in the case in question. The intimate relation between the serous membranes and the lymphatic system suggests that these membranes might hold a similar relation to the blood in contact with them to that which is the case with the walls of the lymph and blood vessels.

The experiments related not only to coagulation but also to absorption and inflammatory changes, and were made upon rabbits and a goat.

The result was that blood introduced into the thoracic cavity remained fluid for some time, a few hours only in the case of large amounts; somewhat larger when smaller quantities were present, though never more than twenty-four hours. In addition to the blood-clots a fluid resembling blood was present, which was either serum from the original hæmorrhage, and did not coagulate after evacuation, or, if coagulating, a secondary pleuritic effusion. The living healthy pleura thus delays coagulation.

Blood introduced into the peritoneal cavity remained fluid for some time, and either became absorbed in a few days, or remained larger and became coagulated. Blood within the pericardium clotted rapidly. The absorption of blood or serum appears to be quite slow in the rabbit's pleural cavity, but rapid in the abdomen.

In many cases pleurisy accompanied the hæmothorax, the more readily the greater the hæmorrhage. Little or no change took place in the peritoneal cavity in consequence of the hæmorrhage.

The practical bearing of these experiments upon the case alluded to is to be found in the probability that the bloody fluid aspirated was not blood but pleuritic effusion mixed with blood corpuscles from the extravasated blood. Blood clots were probably present within the pleural cavity, as fluid blood in such apparent quantity could not remain there for so long a time without coagulation. In deciding upon an operation for the removal of the abnormal pleural contents, supposing such to be thought advisable, it is evident that a simple puncture would produce but a partial effect.

*(To be concluded.)*

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## PROCEEDINGS OF NORFOLK DISTRICT MEDICAL SOCIETY.

ARTHUR H. NICHOLS, M. D., SECRETARY.

SPECIAL meeting, February 13, 1877, the president, DR. JOHN P. MAYNARD, in the chair. Present, fifty-four members. The society met in Roxbury, and was called to order at eleven A. M.

*Local Boards of Health, and the Duties of the Medical Profession relating thereto.* — DR. ROBERT AMORY read a paper with the above title. He observed that although physicians are commonly dependent for their means of support upon the existence of disease, their highest duty consists, nevertheless, in striving to procure the adoption and enforcement of prophylactic measures

designed to prevent or check disease. In accordance with this principle, members of the medical profession endeavor constantly, both publicly and in private, to educate public opinion to carry into effect sanitary and hygienic measures. By this means public opinion has of late years been educated to such an advanced point, that many important legislative enactments have been procured, some of which, if faithfully carried out, cannot fail to have an efficient prophylactic effect. Some of these enactments, quoted from the General and Revised Statutes of the Commonwealth, were shown to be of an extraordinary character, in that they require of physicians the gratuitous performance of important duties, and assign a severe penalty for their infringement. Other of these sanitary statutes are remarkable for the very extensive authority conferred by them upon local boards of health; an authority broader and stronger, it has been said, than that possessed by the justices of the supreme court. For example, it has been decided that an order of a board of health for the removal of a particular nuisance is valid without previous notice to the parties interested, and without allowing opportunity for them to obtain a hearing. Thus, the judges of a nuisance or of a cause of ill health are the identical officers whose duty it is to abate the nuisance. In other words, they are the executive of their own judicial functions, and in order to waive their decrees, the parties in interest must prove that no nuisance or cause of sickness exists.

In this State it is provided by statute law that every town must have a board of health. If the citizens fail to elect such a board, it is made the duty of the selectmen to act with all the authority which the law vests in a health board. Inasmuch, however, as persons serving on such a board should be qualified by education, and capable of bringing a well-trained intellect to bear upon the causes of disease and deciding upon the prophylactic measures best qualified to arrest its spread, it is obvious that the ordinary selectman will not constitute an efficient health officer. A board of health may delegate all its authority to an agent to act in an emergency when the body itself cannot be conveniently assembled, but this agent is required to report his action in each case within two days to those from whom he derives his authority. Although the law provides that all expenses incurred in the removal of nuisances shall be levied, and may form a lien, upon the property upon which the nuisance exists, yet it is extremely convenient, and even economical for the town to appropriate a sum of money to be used by the health officers. A small sum spent in the prompt removal of a cause of sickness or a nuisance may prevent the expenditure of a much larger amount at a later period. Any person maintaining a nuisance can be obliged to abate the same immediately, or as soon as may be possible. If he fails to comply with the order of the board, the health officers are empowered to carry out all necessary measures at the owner's expense. Furthermore, the board of health may, without previous notice, order any unhealthy residence to be immediately vacated and closed, and any persons entering these vacated premises may be fined a sum not exceeding fifty dollars. Again, the board may cause the owner of the property, who has failed to comply with its order to abate a nuisance, to be fined by the court for every day's delay which said owner knowingly permits such nuisance to remain after the time prescribed for the removal thereof. It must be borne

in mind, however, that all suits for fines under the health statutes must be brought by the town treasurer, since these fines inure to the benefit of the town.

It should be regarded by physicians as their bounden duty not only to support and obey the regulations instituted by boards of health, but also to take an active part in educating and influencing public opinion, that the spirit of such statutes may be sustained. On the other hand, the strongest coercive measures should be brought to bear upon medical men who may undertake to thwart health officers in the discharge of their legitimate duty. The State has manifestly the right to require physicians to notify the authorities of the existence of dangerous contagious diseases, and the failure to comply with any such just requirement, demanded by public necessity, should be visited by severe penalties; nor should any plausible protestations of disbelief in the theory of the communicability or transmissibility of specific poisons be accepted as an excuse or palliation for such a serious offense. Dr. Amory expressed the opinion that, in the interest of the public, measures should be adopted by boards of health to prevent physicians and nurses from attending patients sick with contagious diseases, when having charge of others who may be especially susceptible to the contagion of such diseases. No physician or nurse should be allowed, for instance, to attend a lying-in-woman after having been just previously exposed to a case of erysipelas. When a physician openly and defiantly refuses to report cases of small-pox or scarlet fever to a board of health, he not only runs the risk of defying the law and its officers, but also of sacrificing a broad vantage ground, which now belongs to the regular graduate in medicine. His bad example will be followed by others, and a warfare will begin, the result of which cannot fail to injure our profession, and interfere seriously with the welfare of the community.

Dr. Amory concluded his paper with an interesting account of what had been recently accomplished in Brookline in the way of sanitary reform. A board of health was chosen for the first time in the spring of 1876; since that time sixty-seven nuisances have been abated, and thirteen refractory citizens prosecuted. The board has also compiled and caused to be adopted, a set of by-laws, which were published under its authority, together with a digest of the health statutes. It has introduced an improved system of emptying and cleansing vaults and cesspools; has assumed control of the weekly removal of dirt and garbage; and more recently has ordered a surveillance of the registration of deaths.

DR. HENRY A. MARTIN remarked that in cases where physicians are called upon by the State to render services not absolutely demanded by urgent public necessity, it is but just that some fee should be returned in acknowledgment for such services. The lawyer very properly exacts a fee for the smallest duty rendered, and in all other professions and branches of business the State remunerates its laborers. The members of the medical profession alone occupy the anomalous position of performing important and valuable labor without receiving any corresponding return. He referred to the labor of signing vaccination and death certificates, a duty which, if conscientiously and thoroughly performed, is a matter of considerable trouble and annoyance to

the busy practitioner. Inasmuch as this is a matter of public benefit, rather than of necessity, provision should be made by state or municipal enactments for a nominal compensation for the labor.

The society voted to appoint a committee of three to investigate the question of the propriety of exacting fees in the case of certificates.

*Uterine Supporters.* — DR. CLIFTON E. WING presented a paper upon The Use of Uterine Supporters, in which it was maintained that a certain proportion only of uterine troubles can be benefited by the employment of pessaries, but that in cases requiring these instruments they can do nothing but harm unless perfectly fitted to the given vagina. Dr. Wing admitted that uterine trouble involving congestion and enlargement generally precedes the displacement of the womb, and is its chief cause. But it should be borne in mind that in certain cases the reverse is true; and the physician who holds steadfastly to the one view or the other must sometimes err.

The circulatory system of the uterus is adapted for supplying that organ with the proper amount of blood, when in its usual position, but it may be accepted as a rule that any change in the position of the womb from the normal one tends to interfere with the circulation, and usually the greater the displacement the more the congestion. Congestion of an organ as richly supplied with blood vessels as is the womb involves a material increase in its weight, which of course tends to perpetuate and increase the displacement.

Certain varieties of uterine displacement take place suddenly, as the result of violence, such as the strain from lifting a heavy weight, or a fall; the natural result of such displacement is congestion, œdema, and increased sensibility, and, with the congestion of the mucous membrane, an abundant secretion of mucus. If, under such circumstances, the displaced part be restored to its normal position and retained there by means of a pessary until the natural supports regain their tone, it is reasonable to suppose that the congestion and sensibility will rapidly diminish, the organ decrease in size, the uterine discharge cease, constipation, painful defecation, and trouble with the bladder disappear, dysmenorrhœa, due to the congested, hyperæsthetic state of the womb, or perhaps to obstruction caused by a flexion, give place to perfectly painless menstruation, and that recovery will take place without additional treatment. In the case of uterine displacement in any direction, the opposing ligaments and tissues are overcome and kept extended as long as the displacement continues, and our main hope of cure in such a case must lie in restoring the womb to its place before its proper supports become permanently overstrained, and in retaining it in position until they regain their tone. The indications for treatment are here often met by a well-fitting supporter, though in other instances, owing to the condition of the parts, other measures, perhaps operative, are necessary before the womb can be restored to its normal position and retained there by the pessary. Dr. Wing denounced the employment of the elastic ring and globe pessaries, and also of those made of soft rubber and dilated within the vagina, asserting that they tend to leave the pelvic supports weaker than before they were used. He spoke of the tendency at the present day to undervalue the influence of the vagina in supporting the womb, and in keeping it in place, maintaining that the walls of the vagina,

when in apposition and of normal tone, and supported by the surrounding tissues, must act as a strong column of support to the womb. Soft rubber, moreover, absorbs more or less of the secretions, and becomes in a short time very foul and irritating, giving rise often to excessive leucorrhœa. The softest inflated pessary may cause an astonishing amount of ulceration in a very short time. The supporters which have a stem attached to a belt, or other contrivance on the outside of the body, were characterized as probably the worst of all, being incapable of adapting themselves to the mobility of the womb, and tending to stretch the vagina and distort the parts. Of all the materials which have as yet been brought into use, hard rubber is by far the best, and the various modifications of the closed lever pessary of Hodge, made of this substance, will be found to supplant the other varieties of pessaries in proportion to the experience of the physician in their application. But the secret of success with pessaries lies not so much in the kind which is employed, for a variety which is proper for a given case may be improper for the next, but in accurately fitting the pessary to the patient.

DR. E. D. MILLER thought that in the great majority of cases it was advisable to direct the treatment towards the local inflammation rather than the malposition, which latter lesion did not necessarily involve any unpleasant symptoms. If the uterine ligaments were relaxed, the fundus, being the heaviest part of the organ, would inevitably bend over; but he had known many women to go about with the greatest possible displacement, and yet without any inconvenience. If any part of the uterus or vagina with which the pessary comes in contact is sensitive to pressure, this constitutes a contra-indication to the employment of the pessary. It would be as reasonable to apply pressure to a boil.

DR. WING replied that tenderness of the uterus alone constituted no contra-indication to the use of a pessary, for a proper uterine support should not come in contact with the uterus. In reply to questions, he stated that in cases of retroversion with adhesions, such for instance as result from parametritis, relief would generally be afforded by gradually distending and breaking up the adhesions, and then restoring the organ to its normal position where it should be retained for several months by means of a well-fitting pessary, at the end of which time the relaxed ligaments would probably have shortened, and the organ would remain in position without further artificial support.

*Pessary imbedded in the Vagina; Removal.* — Dr. Miller displayed a hard rubber pessary removed the day previous from the vagina of a woman aged seventy-six years, which had been inserted about two years previous on account of procidentia uteri. It was found, upon examination, that firm fibrous membranes had formed within the vagina, such as are not unfrequently seen in old women, and these blocked up the passage so as to render the withdrawal of the pessary impossible, and it could be removed only after a portion of the instrument had been cut away. A large calculous deposit had formed around the pessary at the point where it came in contact with the meatus urinarii. Dr. Miller said that he had removed a pessary under similar circumstances two years previous.

*School Hygiene.* — DR. JAMES WALDOCK read an exhaustive paper upon



this subject, beginning with the assertion that in this and in all other civilized countries occupying the cooler portion of the temperate zones, the artificial conditions of life passed in dwelling-houses, workshops, and particularly in schools, tend to produce various bodily deformities, serious illnesses, and an unnecessary destruction of life. He showed that the cases of untimely death occurring in this country among children, resulting from the insanitary conditions of the school-room, amount annually to many thousands, and that the aggregate of other cases of preventable disease not terminating in speedy death, but in the permanent disability or deformity of some portion of the body, or in the loss of some functional force, would be represented by a very much larger figure. He next proceeded to specify some of the chief sources of danger to health existing in the public schools, embraced under the following heads:—

I. Ill-located school-rooms. II. Ill-heated school-rooms. III. Ill-ventilated school-rooms. IV. Infected school-rooms. V. Dark or ill-lighted school-rooms. VI. Ill-furnished school-rooms. VII. Immoral or demoralizing school-rooms. VIII. Hyper-hygienic school-rooms.



### KEYES ON THE TONIC TREATMENT OF SYPHILIS.<sup>1</sup>

Few diseases are more thoroughly controllable by therapeutical agencies than syphilis. "The prognosis in the most desperate conditions," says Dr. Keyes, "is always infinitely better where syphilis can be made out as having caused the trouble than where any other diseased condition is at fault." So powerful is the curative action exerted by mercury and by iodide of potassium upon syphilitic patients as fully to justify this statement of Dr. Keyes. At the same time it must be admitted that mercury, when misapplied, is equally powerful for harm. It is therefore eminently desirable that we should know how to conduct the treatment of syphilis by mercury so as to obtain the full benefit of the drug without incurring any of the disadvantageous effects which have brought this valuable agent into disrepute in so many quarters.

The chief object of Dr. Keyes's publication is to show that mercury *in suitable doses* exerts a true tonic action. The method of demonstration here used is the numeration of red blood corpuscles in patients under mercurial treatment. "Mercury," says our author, "has long been considered as an alterative. . . . To me the word alterative was always objectionable, because I could not understand it. I believed mercury to be beneficial in minute doses, but it was only while counting with the *hématicmètre* the recells in the blood of individuals, healthy and syphilitic, who were taking minuted doses of mercury, that I appreciated its real import: alterative, when applied to small doses of mercury, means tonic, and tonic means an increase in the number of red blood cells." This method of investigation had already been applied by Wilbouchewitch. He found that a short period of augmentation in the number of red corpuscles was soon followed by a phase of rapidly pro-

<sup>1</sup> *The Tonic Treatment of Syphilis.* By E. L. KEYES, A. M., M. D. New York: D. Appleton & Co. Pp. 83.

gressing anæmia, which ceased only when the mercurial drug was withdrawn. Hence his precept to administer mercury in repeated interrupted courses. Dr. Keyes shows, however, that Wilbouchewitch overdosed his patients with mercury, thereby causing diarrhœa and loss of weight, and that his results and conclusions do not accord with the phenomena observed by Dr. Keyes himself in patients undergoing treatment by continued small doses of mercury.

Dr. Keyes's blood-counting observations show that mercury decreases the number of the red cells when given in excess, especially in hospitals; that syphilis diminishes the number of red corpuscles below the healthy standard; that mercury in small doses continued for a short or long period in syphilis alone or with the iodide of potassium, increases the number of red corpuscles in the blood, and maintains a high standard of the same; that mercury in small doses acts as a tonic upon healthy animals, increasing their weight, while in larger doses it is debilitating or fatal; and that mercury in small doses is a tonic (for a time at least, as long as the experiments lasted) to individuals in fair health, not syphilitic.

The results of the blood-counting observations and experiments are exhibited in Chapter I. These valuable and interesting contributions to physiological therapeutics may perhaps bring Dr. Keyes's work somewhat into discredit among the more determined devotees of pure empiricism, to whom, by the way, it must be a little displeasing to see the "alterative" action of mercury explained. We therefore hasten to add that Chapters II. and III. are devoted to the clinical and practical aspects of the treatment of syphilis in all the phases and forms of the disease. Here experimental and theoretical considerations give way to the results of accurate and careful observation and of ripe clinical experience, which are set forth clearly and succinctly. Judging from the standpoint of the practical interests of the physician, we know of no better exposition of the rules which should govern the treatment of syphilis than is contained in this little volume.

T. B. C.

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### GARNIER'S DICTIONNAIRE ANNUEL.<sup>1</sup>

THE twelfth volume of this valuable work has been received, and, as in former years, its contents are such as its title describes them to be, an annual record of the progress of medical sciences and institutions. The reader may here find under its appropriate title a faithful abstract of what has been published by the medical profession during the past year, not in France alone, but in every country. Inspection will not fail to convince the examiner that we have in this work one of the handiest and most valuable of manuals.

In his introduction the author calls attention to the interest which has been manifested during the past year in the subject of medical education, both in France and elsewhere.

The question of cerebral localizations has occupied the minds of many investigators, and to the results of experimentation, heretofore negative or contradictory, there have succeeded clinical and anatomo-pathological facts of an

<sup>1</sup> *Dictionnaire Annuel des Progrès des Sciences et Institutions Médicales.* Par M. P. GARNIER, M. D., etc., etc. Twelfth Year. Paris: G. Baillière & Cie. 1877. 12mo, pp. 53.

affirmative character, and sufficient in number to confirm the doctrine of these localizations.

Among the new therapeutic agents salicylic acid attracts most attention. The author gives to the physicians of the United States the credit of making the most numerous and careful observations regarding its value in rheumatism; but in consideration that so many drugs have been vaunted as specifics in this disease, he thinks we should be careful about placing too much confidence in the newest.

The favorable influence of sea-air and baths upon scrofulous coxalgia, and the reported success of bismuth in the treatment of intestinal hæmorrhages in typhoid fever, of the bromide of potassium in facial neuralgia, and of eucalyptus and chloral in cancer are mentioned.

Following the introduction and arranged in alphabetical order are the abstracts of which the dictionary is composed. Frequent mention is made of articles which have appeared in American medical periodicals, and we meet with many names, and with favorable mention, of the contributors to the JOURNAL.

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#### A MEDICAL INSPECTOR OF SCHOOLS.

THE last meeting of the Boston School Committee was the occasion of an animated debate on the propriety of establishing the above office. The proposition had already been referred to a committee, who had reported unfavorably. Dr. John G. Blake opened the proceedings by offering a substitute order to appoint a medical and sanitary inspector of the public schools, and argued in its favor at some length. He read a petition signed by Dr. Bowditch, Dr. Williams, Dr. Cheever, and other leading physicians, a letter from Dr. E. H. Clarke, and a communication from the Board of Health, all in favor of such an appointment. Our space will not permit us to reproduce at length the able arguments which were presented, but we must give an extract from Dr. Clarke's letter, which contains the pith of the matter:—

"It is scarcely credible that at the present time, and in the city of Boston, it is necessary to insist upon the influence of physical over intellectual development, or to point out the necessity of attention to the health of scholars of both sexes, as a means of securing their best intellectual and moral advancement; yet I fear the community give only a superficial assent to such a statement, without entertaining an absolute conviction of its truth, or possessing an earnest determination that the health of our youth shall be sustained and improved, as far as possible, at all hazards and at any necessary cost. If the school committee really believed it they would not hesitate about appointing a competent officer charged with the duty of supervising our schools, so that they shall not train their pupils into the ways or expose them to the danger of disease. The intellectual and moral development of puny and feeble children is sure to be as puny and feeble as that of their bodies. Physical and mental soundness and physical and mental unsoundness go together. The instances which now and then occur of great mental force and attainment in young persons who are the victims of ill health and deformity belong to the class of exceptions which prove the rule."

Dr. Blake then explained to the committee the importance and great breadth of the question. "The possibility," said he, "of evils existing which affect more or less directly the physical well-being of twelve hundred teachers and fifty-six thousand pupils in our schools must be of weight and moment in the processes of mental improvement and moral health. Preventive measures against the introduction and spread of contagious disease, though there may be the most apparent want in this respect, are not by any means more indispensable than many other obscure evils which are thrust upon our notice from day to day. Grave defects of heating and ventilation, improper forms of school furniture, lack of proper hygienic considerations in the selection of school sites and construction of school-houses, and insidious dangers to the sight and hearing of pupils may not produce the sudden change from health to disease which is caused by the introduction of an epidemic or the propagation of contagion, but they none the less surely sap the springs of health in body and mind, while in the end they become as fatally pernicious as their more dreaded associates. Besides, we cannot draw a line in these matters. Given imperfect conditions to begin with, and we are at the mercy of a thousand forms of danger which under more favorable circumstances would be harmless or unimportant."

He then referred to the report of the committee, in which the importance of the question was admitted, but which claimed that the present rules which require superintendent, supervisors, and teachers to interest themselves in all that pertains to the physical condition of those under their charge met the want and supplied the deficiency. This, Dr. Blake argued, was not the case. "What right have we to expect from instructors and arbiters of educational principles the intimate and thorough knowledge of health laws, regulations, and abuses, without which any interference in these matters is simply a matter of form or pretense? What is there in the ordinary culture of the student or man of letters — even in his extraordinary culture, if you so desire it — to make him an expert in matters entirely outside his courses of study? We would scarcely require of our supervisors or teachers that they should be able to prescribe for a case of scarlet fever or set a broken limb; we do not demand of our superintendent that he should be a practical engineer or a professor of chemistry; but neither of these cases is more abstruse nor requires a more special education to grapple with than any one of fifty questions which may enter into a proper regard for the laws of health in schools at different times through the year. With the best will in the world on the part of our present board in all its departments, with the most earnest and enlightened desire to do their whole and full duty, I contend that there is no law of right or principle of logic by which we should expect the work of a sanitary expert from any other than a specially qualified medical man."

These were the chief branches of Dr. Blake's speech. He brought much collateral matter in support of his views, and concluded by hoping that the committee would not allow itself to be deterred by the slight additional expense.

Dr. Ezra Palmer, of the sub-committee that had condemned the plan, replied to Dr. Blake, and made if not a good at least a remarkable speech. He consid-

ered the proposed office unnecessary. Diseases, he said, did not arise at school, but in the homes of many of the children. We are not aware that any one has disputed this fact, nor that it has any bearing on the question, for a disease acquired in one place may be communicated in another. Dr. Palmer, however, did not limit himself to truisms, but made the surprising statement that scarlet fever is but slightly if at all contagious, and arises from defective sewerage and kindred evils. We do not know what grounds Dr. Palmer may have for this view, which is totally opposed to those of the leading physicians of the civilized world, but they must be strong ones to justify him in positively enunciating a theory which, if erroneous, must lead to deplorable consequences.

Dr. H. P. Bowditch thought it unnecessary to take up time with a medical discussion on contagion; so merely stating that Dr. Palmer's ideas were contrary to those of the vast majority of physicians, he presented the province of the medical examiner in a new light, as will be seen by the following extract from his remarks:—

“We have given abundant evidence of our belief that complete education must combine both mental and bodily training. Our regulations are full of statements of this sort. Even the committee which reported adversely upon the measure under consideration emphasized this fact in the most decided way. Although mental and physical training are thus recognized as two parts of one harmonious whole, the means which have been adopted for testing the efficacy of the methods in use are very different in the two cases. While the results of mental training are tested periodically with great care by a board of paid officials, no pains are taken to determine the result of our efforts at improving the physique. We provide for a certain amount of physical exercise, for military drill, etc., measures which we regard as conducive to a good development of the physique, but we have adopted no plans for determining whether the physical condition of the pupils is really improving under our methods. For this purpose periodical investigations and reports on the sanitary condition of the pupils in the various schools should be made.”

Dr. J. B. Moran made an excellent speech of a pacific and conciliating tone, in which he declared that all of the committee desired to advance the good of the pupils and differed only in the means. “The question,” he continued, “which suggests itself is this: ‘Have we fully attended to this duty or not?’ Other members say we have; the committee on rules and regulations say we have, as far as it is possible and advisable. But on this first point I beg to differ with them. I believe we have not. And since we have not, and there exists such an obligation upon us, and as the means proposed seem to be the best within our power, I feel it my duty to support and advocate the order before us.

“What is it to us that other cities or other countries have not taken this step? We did not consult them in founding our present school system and establishing our board of supervisors. Why should we wait for some other government to take the initiative? We are the custodians in a very great measure of the health and the lives of fifty thousand children. There is a moral obligation here which we cannot shirk. It is not sufficient that we do *something*; it is not enough that we do *much* to protect the health of these children. We are bound in duty to our own convictions on the one hand, and on the

other to the citizens of Boston, whose servants we are, to do *all* and *everything* that can be done in reason and justice for the preservation of the good health and physical perfection of the pupils, and the prevention of disease amongst them. Now, Mr. President, I ask, have we fully complied with this obligation, this public necessity? I answer, we have not, and never shall have, until we appoint a man competent to fill such a position as is advised, whom we can hold responsible for the performance of such duties as the proposed office implies. What we require is an officer, in a word, a physician, a student of health and life and sanitary laws, and when we have such an officer, then, and not till then, do I consider that we shall have done our whole duty."

The point having been raised that the school committee has not the power to create such an office, the question was dropped till the opinion of the city solicitor should have been obtained. We do not know what the legal aspect of the case may be, but if it should appear that such an office cannot be made, we trust the law will be changed so as to allow it, for we believe that if a proper appointment is made, much good may come from it. We hope that in either case the duties of the inspector will be clearly defined, and that great care will be exercised in selecting a candidate for the office.

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## BOSTON CITY HOSPITAL.

### MEDICAL CASES OF DR. G. H. LYMAN.

*Chorea in Pregnancy.*—CASE I. B. L., single, aged thirty, entered the hospital October 31, 1876. Catamenia began at fourteen, and had since continued regular. Had suffered from nausea for two weeks with sensation of burning at epigastrium. The patient was extremely nervous, had twitchings of the muscles, and started convulsively at the slightest sound, and when suddenly touched screamed violently. She was ordered a laxative, to be followed by asafœtida and valerianate of ammonia.

November 12th. Her symptoms remaining unchanged, a more careful inquiry revealed the fact that she had been exposed to conception early in September, and that contrary to her original statement she had not since menstruated. On vaginal examination the uterus was found full and hard as if about two months pregnant. No lividity of vaginal walls or enlargement of breasts. Morning nausea constant. She had evidently entered with the hope that by deception she would get some treatment to relieve her of the pregnancy.

CASE II. E. S., single, aged eighteen, was also admitted October 31st, suffering from involuntary convulsive movements, which she said had troubled her for three weeks. These were most marked on the left side, and at times were so severe as to prevent her from articulating distinctly, or from feeding herself. She said that two years ago she had had a similar affection. Upon examination she also was discovered to be pregnant.

These two cases are reported as instances not very common of the nervous derangements incident to the early stages of pregnancy. They are more generally found in young unmarried women, induced probably by mental distress and anxiety in view of impending disgrace. As these symptoms usually persist

in spite of treatment until delivery takes place, they were both discharged to await their confinement elsewhere.

*Chronic Endometritis and Metrorrhagia relieved by Full Dilatation of Cervix.* — L. S. W., aged twenty-seven, married; catamenia at sixteen, always irregular; attributes her troubles to scarlet fever, which she had nine years ago, and which was followed by anasarca and general debility. A year since she had pain in the lower part of the abdomen, most severe on the left side, extending down the leg to the ankles. Has now constant lumbar pain. For eight months has not been free from metrorrhagia with the exception of two weeks in June, and the ten days previous to admission. Has always suffered from leucorrhœa; married sixteen months ago, but was divorced at the end of three months. Never pregnant. Complains of facial neuralgia, headache, insomnia, obstinate constipation, and dysuria.

October 15th. Upon examination the uterus was found to be enlarged, the sound entering easily three and one half inches. The cervix was red, congested, and the os somewhat patulous. Nitric acid was applied to the cervical canal, and she was ordered large vaginal douches as hot as could be borne, and laxatives.

October 29th. Much improved. Cervix freely scarified, followed by glycerine tampon. The same general treatment was pursued at intervals of a week or ten days with marked relief to the leucorrhœa, pains, and uterine congestion. The metrorrhagia not ceasing, a month later (December 28th), the cervix was largely dilated by laminaria tents and the cavity thoroughly swept with curette forceps, bringing away only some small shreds of hypertrophied mucous membrane. This was followed immediately by tincture of iodine swabbed over the whole uterine surface.

January 7th. Hæmorrhage has ceased almost entirely since the dilatation. The sound now enters but two and five eighths inches. There being a slight show occasionally, the cervix was again thoroughly dilated by tents.

January 12th. No hæmorrhage. Cervix natural, discharging for the first time a healthy transparent mucus. Patient was directed to take iron, and was discharged.

*Hæmorrhage from Abortion.* — A. H., aged thirty-six, widow, admitted December 9th, was attacked suddenly in the street the evening before with profuse uterine hæmorrhage. Confesses that she was exposed to pregnancy four months previously. Assisted to the hospital by the police, her clothing saturated with blood, and still flowing profusely. Ergot and stimulants given by the house physician during the night were rejected. The fundus uteri was found above the brim of the pelvis, the os dilated and soft, and the membranes protruding. The vagina was immediately tamponed and ergot was given subcutaneously.

December 10th. At morning visit the tampon was withdrawn, and the placental mass, still partially adherent, was removed by forceps. There was no trace of the fœtus, which had designedly or otherwise been lost the day before. After ergot and stimulants for a few days she was discharged well.

*Hæmorrhage from Fibroid.* — M. K., aged forty-eight, married, with eleven children, was admitted October 17, 1876. Has always been well and regular

until a miscarriage occurred twelve months since. This was accompanied with considerable hæmorrhage. Since that time the catamenia have recurred profusely every two weeks. A week before admission the hæmorrhage was so abundant as to induce syncope, and the flowing still continues, sometimes more, sometimes less. Vaginal examination revealed a fibroid about the size of a hen's egg, attached by a distinct pedicle within the cervix near the internal os. This being drawn down and removed the hæmorrhage ceased immediately, and not recurring for a week the patient was discharged well.

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### FLUID WEIGHTS IN PRESCRIPTIONS.

MESSRS. EDITORS, — The JOURNAL of March 8th contains a communication signed E. T. R., in which the continuance of the practice of dispensing liquids by measure is advocated. Permit me as one of the few who as yet have publicly taken the opposite view briefly to lay the arguments of the other side before your readers.

The reasons assigned by E. T. R. for his side are (1) "much greater convenience for all parties concerned," and (2) "accuracy entirely sufficient for all practical purposes." I agree with the second proposition, because all doses of medicines are at best only approximations to the quantities actually required; but the fact that one has done well is no reason why he should not do better, and I am pleased to notice that E. T. R. indirectly concedes the greater accuracy of the other way.

In regard to the first reason, it will be granted that the "parties concerned" are the patient, the pharmacist, and the physician, to the first of whom it does not make the slightest difference how the liquids are dispensed, because he will have to continue to take mixtures by the conventional teaspoon or some other convenient measure. The pharmacist, however, will encounter some inconvenience if the proposed change is made; he will have to unlearn some of his accustomed practices, and become proficient in others to which he is not accustomed, but after that has been accomplished, we believe that he would not like to change back again to the present method, even if he were permitted to do so.

The physician is in a precisely similar position to that of the pharmacist, only that in the case of the latter, methods of manipulation are the main difficulty, while with the former the apportionment of doses is the chief or rather the *sole* obstacle to be overcome. Neither the one nor the other will exist for those who may join either profession after the change shall have been adopted; for it will be just as easy, and I think easier, for the physician to remember the doses of tinctures, syrups, etc., by weight, because they will have been made in fixed proportions by weight only. However, the opposition to the proposed change arises perhaps mostly from the mistaken notion that physicians could not estimate the volume of a liquid medicine prescribed by weight. On reflection it will be granted that, practically, but two classes of liquids deserve consideration as general vehicles forming the bulk of the mixtures usually prescribed, namely, waters and syrups, and their relation to



each other as to weight is so well known to every intelligent person that the physician will have no trouble in using it for his purposes with greater mathematical precision, remembering merely that the one class is one third heavier than the other. The specific gravity of tinctures made with diluted alcohol, which constitute sometimes the principal volume of liquid medicines, is so near that of water as to be practically the same, and liquids which vary materially from the specific gravities of the two classes mentioned above are never prescribed as ingredients of mixtures in such quantities as materially to influence their bulk beyond what would be produced by the same weight of water or syrup. On reflection, I think E. T. R. will grant that he urges merely personal and temporary inconvenience as an argument against the proposed change, which I freely admit.

The above considerations, however, point to the greater exactness and convenience of weights over measures in the prescribing and dispensing of liquids after both physicians and pharmacists shall have accustomed themselves to the change. For the wholesale drug and chemical trade this has long since been recognized, and has even, to some extent, been admitted by our national Pharmacopœia in the last two editions. If correct for one half the liquids, why not for all? But there is another point which is generally overlooked by the opponents to the proposed change, namely, the fact that all civilized nations except those speaking the English tongue prescribe and dispense all medicinal substances by weight alone, and that by adopting the same course the scientific intercourse between the different nations will be greatly facilitated.

In the *American Journal of Pharmacy* for February I have discussed these points at some length, and have also shown that the physician may gradually accustom himself to the change, either by using the tables there given in converting the measures of different liquids into their corresponding metric weights, or by directing the apothecary to dispense them by this weight after converting the weights and measures now in use into grammes.

Mr. Alfred B. Taylor, in the *Philadelphia Medical and Surgical Reporter*, February 24th, in a paper bearing the title of this communication, proves likewise the greater convenience and accuracy in prescribing and dispensing liquids by weight; but he suggests that the mixture be made up to a desired bulk by adding a sufficient quantity of the vehicle or adjuvant. The plan will answer very well as a compromise for those physicians who from long habit have become so wedded to measures that they cannot discern the simplicity of apportioning by weight alone the doses of such medicines as have to be taken by the spoonful.

For those who are acquainted with the subject, no argument is needed to prove that the reasons for preferring in many cases volumetric to gravimetric analysis do not apply to the dispensing of medicines.

Very respectfully yours,

JOHN M. MAISCH.

PHILADELPHIA, March 17, 1877.}

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MARCH 24, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228			27.46
Philadelphia	850,856	351	21.45	22.88
Brooklyn	527,830	221	21.77	24.31
Chicago	420,000	154	19.05	20.41
Boston	363,940	145	20.72	23.39
Providence	103,000	31	15.65	18.34
Worcester	52,977	16	15.71	22.00
Lowell	53,678	24	23.25	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370	19	19.61	22.04
Lawrence	37,626			23.32
Lynn	34,524	10	15.06	21.37
Springfield	32,976	8	12.62	19.69
Salem	26,739	6	11.67	23.57

ERRATUM. — In the last number of the JOURNAL, the signature of the author of the description of Dr. Snellen's phakometer, Dr. Hasket Derby, was omitted by mistake.

NORFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held in Bradley's Building, corner of Dudley and Warren streets, Roxbury, on Tuesday, April 10th, at eleven o'clock. Papers, communications, etc. : —

1. Recent Improvement in Pharmacy, with Specimens. Prof. G. F. H. Markoe.
  2. Report of Committee upon the Subject of Physicians' Fees in Cases of Death Certificates, etc.
  3. Criminal Accountability of the Insane. Dr. Edward Mead.
  - Exhibition of Recently Invented Instruments, Apparatus, etc.
  4. New Flexible Splint for Knee-Joint. Dr. W. P. Bolles.
  5. New Apparatus for the Administration of the Vaginal Douche. Dr. J. Stedman.
  6. New Metallic Probe for Fistulæ. Dr. H. A. Martin.
  7. Portable Disinfecting Apparatus. Dr. T. Garceau.
  8. Newly Invented Surgical Apparatus. Dr. W. C. B. Fifield.
- Members of other district Societies are cordially invited to be present.  
Lunch at 1.45 P. M.

ARTHUR H. NICHOLS, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Proceedings of the Medical Society of the County of Kings, Brooklyn, N. Y. April, 1877.

General Index to the New York Medical Journal from April, 1865, to June, 1876. New York: D. Appleton & Co. (From A. Williams & Co.)

The Medical Science and Profession. Commencement Address by the Rev. N. West, D. D., before the Miami Medical College, Cincinnati. 1877.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## NOTES ON SOME OF THE MOST FREQUENT FORMS OF SKIN DISEASE.<sup>1</sup>

BY F. B. GREENOUGH, M. D.

### NUMBER III.

*Acne.* — Inasmuch as probably no member of the human race passes the age of puberty without being more or less affected by it, acne may be said to be the most common of the cutaneous affections ; that it does not always stand at the head of the list numerically in the physician's case book is due to several reasons. In the first place being so common, especially at a certain age, it is regarded by many as a necessary evil, which, unless it should become too aggravated, is not worth troubling one's self about. Again, as it is considered by the majority of people as an evidence of some impurity of the blood, the domestic practitioners feel themselves perfectly competent to treat it, and do so by prohibiting the use of butter, gravy, and other "greasy" viands, besides appealing to the emunctories with sulphur and molasses, salts and senna, etc. And lastly, there is a feeling that it is a disease against which, when domestic remedies have failed, the efforts of the physician will not prove very efficacious. This opinion is, I am afraid, not entirely groundless, as the disease is usually treated, since the means commonly employed are ferruginous tonics, or if the patient be a female and the physician consulted have a taste for gynæcology an attempt to find and correct some uterine disturbance is made, and the use of tar or carbolic soap is prescribed locally. The fact is, however, that acne is one of the skin diseases which is most amenable to treatment if the patient be willing and able to give the amount of time and trouble requisite in seeing the physician as often as is necessary, and in following out the instructions given. I do not mean to say that in a light case the occasional appearance of a pimple can be prevented, or that in a severe one the skin can ever be restored to its original softness and delicacy, but in the former the attacks may be made very much less frequent and their duration cut short, and in the latter the general condition and appearance of the skin may be very decidedly improved. In fact the more aggravated a case is, the more marked will be the improvement under appropriate treatment.

<sup>1</sup> Continued from page 280.

Acne is so common and well known that it may seem superfluous to say anything with regard to description, diagnosis, etc., but as I am convinced that the really most important factor in the pathology of the disease is not sufficiently insisted upon by the authors, and as it seems to me that the appreciation of this point is absolutely necessary to understand and still more so properly to treat the disease, I will say a few words on the subject.

Acne, popularly known as "pimples" or "toddy-blossoms," is a papular eruption found most frequently on certain parts of the body which in point of liability to be subject to it stand in about the following order: forehead, cheeks, chin, shoulders, back, and breast. The history of each individual papule is as follows: a congestion of the cutis takes place about the opening of a sebaceous follicle, and a proliferation of the connective-tissue corpuscles and effusion of lymph follows, causing a conical raised papule, varying in size from that of a mustard seed to that of a good-sized pea. At the apex of this papule a small pustule is formed, more or less suppuration takes place, the pustule breaks, pus is discharged, and with it some broken-down sebaceous matter, and then the absorption of the lymph occurs and the spot disappears. What is the cause of this, or to what is it due? In every case to the fact of the contents of a sebaceous gland having become, as it were, a foreign body in the skin, and the process of getting rid of it being just the same that nature would resort to in case of a sliver or thorn, namely, inflammation, suppuration, and elimination. The sebaceous follicles under certain unknown influences become stopped up, and the sebaceous matter, instead of being evacuated as it is secreted and performing its function of lubricating the skin, is retained in the gland. When this collection of sebum fills and distends the duct and opening of the follicle as well as the gland itself, we find a little plug of a waxy nature filling the gland and showing on the epidermis as a round spot of a size from that of a point of a pin to at times nearly a line. These plugs are commonly known as "flesh-worms," "black-heads," "grubs," etc., but dermatology gives them the high-sounding title of comedones. Presenting as they do a surface of sebaceous matter to the air, they are very apt to catch any dust or dirt that may come in contact with them, hence their usual dark hue. The darkness of the color and even the color itself of these spots depend entirely on the external surroundings of the patient: thus on printers and people who work in a dusty atmosphere they will be found very black; mechanics who work in copper or brass will show these comedones of a bright-green tinge; while tailors and sewing girls who work on fabrics dyed with indigo will have a dark-blue color imparted to their occluded sebaceous follicles. Tar also seems to have a very marked effect in giving a black color to the comedones, and not only that, but to have a decided influence in causing

the follicles to become plugged. On the other hand ladies who protect their faces with veils, and who are careful and frequent in their ablutions may have the follicles much distended without any black spots being noticeable. The hollow of the ear, just above and behind the meatus, is a favorite location for comedones, and in this situation they are apt to attain a very great size, but they never, as far as I know, act as an irritant in this locality. Sometimes the sebaceous gland retains its sebum without showing any evidence of it on the cutis, that is to say the mouth of the duct will not be distended and plugged up, but the retained sebaceous matter in the gland itself acts exactly like a comedo. It is to one of these two conditions of a sebaceous gland, or rather more properly speaking to one of these two varieties of the same condition, that is, retained sebaceous matter, that every papule of acne owes its being.

The process is exactly the same, on a smaller scale, as that which takes place in every furuncle, the only difference being that instead of a slough of the cutaneous tissue acting as an irritant, in acne it is the retained plug of sebum. As in the case of a furuncle, we may have, as it were, a false alarm, that is to say, in certain cases the raised congested papule instead of breaking down and suppurating is reabsorbed, but whenever the pathological process is completed, with the pus discharged, sebaceous matter will be found, and as soon as this has been thrown off the course of the papule is towards cure. This is the point which it seems to me is not made prominent enough in the books, as the majority of writers on the subject, instead of accepting this as the actual, immediate, and constant cause of acne, refer, in an incidental way, to the fact that the glands are occluded, and wander off into all manner of hypotheses as to the remote causes of the disease or of the glands becoming occluded and inflamed. To what an absurd extent this desire to find the remote causes of acne is carried cannot be better shown than by quoting Erasmus Wilson's paragraph on the subject:—

“*Cause.* Acne is essentially a disease of debility, and especially of nutritive debility. In one hundred cases we found only two that we could designate as dependent on assimilative debility, and one only on nervous debility. The remote predisposing causes made evident by these one hundred cases were as follows: rapid and over growth, twenty-five; congenital weakness, twelve; anæmia, eleven; deficient and improper diet, seven; errors of air, exercise, and general hygiene, six; and under five each the following: nervous debility, mental application and study, scarlatina, fever, deranged menstruation, eczematous diathesis, rubeola, dyspepsia, rheumatism, chill, syphilis, variola, vaccination, strumous diathesis, hæmorrhage, abscess, depressing climate, and climate of India.”

Surely such knowledge is worse than ignorance, and it is much bet-

ter to look upon the retention of sebum as the constant and immediate cause, admitting that beyond this fact our knowledge does not as yet extend. I do not mean to say that we should accept this limit to our information on the subject, and not endeavor to reach beyond it by all the means of investigation and research which can be brought to bear, but in order to establish the connection of cause and effect, something more than mere coincidence is needed, and that this is the only ground for the list of remote causes given above must, I think, be evident to any candid inquirer. That some other factor besides the retention of the contents of a follicle is necessary to produce acne is shown by the fact that in some patients we see the follicles much distended without any surrounding inflammation, while in others the face will be a mass of pimples and yet the mouths of the glands be scarcely visible. Still more to the point is the fact that on the same subject we may find comedones a line in diameter which are not causing any irritation, while alongside of them will be a large, inflamed, angry pimple, due to a retained plug of sebum so small as to be with difficulty distinguished. It seems to me that when we see this difference in liability to become inflamed in the different follicles of the same person, without any means of explaining it, we can hardly expect to appreciate certain constitutional differences as the cause why one person should be more liable to this same trouble than another. Two conditions of the system are pretty universally claimed as being predisposing causes to acne, namely, anæmia and disturbance of the digestive function. Certainly many of the subjects of acne are chlorotic and ill nourished, but on the other hand the most robust and healthy are not exempted from the disease. Troubles of digestion are not at all unfrequent, and when they are found of course should receive appropriate treatment whether the patient has acne or not. It would be an omission not to refer to disturbances of the sexual organs or function as a popularly accepted and possibly real predisposing cause of acne. The fact of its being much more prevalent at the age when this function begins to become active has established an idea of connection between the two. I have also found that a large majority of the young women who seek treatment for this eruption, when asked if they have observed that it is aggravated at any particular period, will reply that is generally worse at the time of the menstrual sickness; many of them also complain of some catamenial irregularity. There is no doubt that many of the girls who have been much disfigured by acne recover the smoothness and freshness of their skin after entering the married state and becoming mothers. It must be remembered, however, that patients of this class are almost without exception anæmic and sickly, and that it is perfectly possible that the sexual disturbances and acne, instead of standing in the relation of cause and effect, may both be due to a common cause, that is, a low condition

of the system. Practically, as far as treatment goes, it is to this general condition, and not to the special manifestations of it, that we must look for indications. It is certainly important that an anæmic, nervous, hysterical girl should not have her attention directed by every pimple to her womb, as that organ probably already occupies altogether too much of her thoughts. The sebaceous follicles being most frequently found occluded in certain parts of the body, it follows that acne most commonly occurs in the same regions, but it may be developed anywhere that sebaceous glands exist. I have seen a case in which on the face, body, and limbs literally not a single area of a square inch could be picked out in which there was not a pimple in some stage of development or the evidence of one having recently been there. The patient had been a fireman in the hold of a steamer, where the temperature was very high and he worked almost naked. Such cases are, however, exceptional, and as a rule the eruption is confined to the face, neck, and upper part of the thorax. It is most frequent about the age of puberty, rarely being found to any great extent after thirty-five. In a mild case a few papules will be seen on the forehead and cheeks, in different stages of development. Each one of these runs its course: as soon as suppuration has taken place and the sebum has been evacuated, the papule disappears, leaving behind it a little pit, which is permanent if the suppuration was extensive enough to destroy the gland. Meanwhile other papules may have come into existence. In a severer form of the disease we find many more follicles affected at the same time, some of which being near together coalesce and form a large tubercular-looking indurated mass. In these tubercles quite good-sized abscesses may form, the skin from constant inflammation becomes thickened and infiltrated, the abscesses when emptied leave ugly scars, and the patient is very much disfigured. Between the two extremes of a pimple or two and a case such as described, every grade of severity may exist, but the individual history of each single papule is in every case the same. In spite of this fact the writers on the subject have not been able to abstain from what I look upon as the curse of cutaneous literature, the tendency to classify, divide, and subdivide, and we find *acne vulgaris*, *coniformis*, *punctata*, *pustulosa*, *indurata*, etc., described as though they were different varieties of the disease, instead of being simply different stages or developments of the same process, all of which may be, and generally are, found in the same case.

At or shortly after the age of puberty the hair follicles of the leg, especially on the anterior and outer aspect of the thigh, and on the posterior and outer aspect of the calf, are apt to become plugged up with sebum, *acne pilaris*. I have, in a few cases of young men, noticed that when these plugs were squeezed out, a hair, half an inch or more in length, would be found to be curled up in the sebaceous matter, its

root, however, being attached to the follicle. I suppose this to be due to the fact of the follicle's being filled by the secretion of its sebaceous gland before the body hairs are developed, and under the circumstances when the hair does begin to form at the bottom of the follicle, not being able to get out, it curls itself up as it develops in the sebaceous matter. This is merely a theoretical explanation of a fact which is referred to only because I have never seen any mention of it. After the hairs are once developed the follicles are not subject to acne; in the same way it is never found on the scalp, the so-called acne capitis being a pustular eruption due to the poison of the syphilitic veins in the system, and in no sense a true acne. The internal administration of the iodide of potassium will in certain subjects call forth an eruption which looks like acne, as will also, but to a less degree, the bromide. That this is a true acne I have not been able to convince myself, — that is to say, an effort of nature to throw out a retained plug of sebum, — but on the other hand I am unable to say that it is not. When due to this cause the eruption of several papules appears simultaneously, pretty widely scattered over the thorax and face; they are all about the same size, and are, I think, of a rather brighter red color than those of common acne. When the exhibition of the drug is suspended they disappear. With regard to the diagnosis of acne little need be said, if its true character be kept in mind, namely, that it is an effort of nature to get rid of an offending body, and that that being accomplished it comes to an end. It should, however, be remembered that the presence of this offending body is not always evident on inspection. Where the duct and mouth of the gland are not distended, we can make sure of the presence of the exciting cause only by cutting open the papule and then squeezing it between the thumb nails, and sometimes even then considerable force will be needed. I have had the little round mass of sebum pop out with force enough to hit me in the face when squeezing a pimple on a patient.

But even without this pathological guide acne is not apt to be confounded with any other eruption. There is a form of papular eruption of the forehead which is a manifestation of syphilis, which might perhaps at times cause some hesitation in the diagnosis. But apart from the other symptoms the eruption in this case would be found elsewhere on the body, and if there were any suppuration the crust, scabs, etc., would be much larger and different in every way from those of acne. The possibility of confounding acne with one of the variolous eruptions need only be thought of to be avoided. From what has been said it will be readily seen that the treatment should be preventive as well as curative. The retention of sebum in a gland being always the actual cause of acne, if we could always prevent this taking place we should not have any acne. Where comedones exist we have an evidence of



the sebum being retained in the follicle. These spots are of themselves often a source of annoyance and disfigurement. They may be removed by squeezing them out with the thumb nails, but a neater and easier way is to use an instrument for the purpose. A watch key does very well; the cheap universal key that is, or was, sold about the streets, made of several barrels of different calibres projecting from a centre like the spokes of a wheel, is the best, as we can select one which is of the proper size for the comedo which we wish to remove. It is placed perpendicularly over the comedo and pressed down with some force, and the plug pops up into the hollow of the tube. This does very well for occasional use, but in time the keys get clogged up with sebaceous matter; moreover, the hollow is square instead of round, and the edges being quite sharp the pressing down of the instrument with the amount of force necessary to extract the plug will sometimes cause more pain than the patients, especially if they are ladies, care to bear. To obviate these slight objections I have had Messrs. Leach and Greene make me a little instrument for extracting comedones, which is very handy and useful. Each end has an opening, one being a sixteenth and the other a thirty-second of an inch in diameter, and the flat metallic edge round the opening being of the same thickness as the diameter of the opening. The two ends are connected by a hole through the handle, so that by means of a small stylet the cavity can be kept clean and free from old comedones. The breadth of the edges, a sixteenth and a thirty-second of an inch, is sufficient to prevent its cutting as a watch key does, and the appearance of the little instrument is neater and more ship-shape than an old watch key. Where there are more comedones than can be removed one by one, much benefit can be obtained by the use of the German soap. This should be used every night on a piece of sponge or flannel, giving the parts affected a good scrubbing, and taking care to wash the soap off with several clean waters. After this has been done thoroughly every night for a week or so, the skin will begin to look red and shiny, if not somewhat rough



*A Stylet.*  
*B Large end 1/16 in.*  
*C Small end 1/32 in.*  
 in places, and then the soap should be used only every other day or twice a week. A lotion of glycerine, alcohol, and rose-water applied after the washing seems to soothe and soften the skin, and after removing the comedones I have been in the habit, on theoretical grounds, of adding a little tannin to this wash. In the German soap we have a very valuable agent for preventing the follicles from becoming occluded, and even for emptying them when

they are in that condition, but as soon as a follicle shows an inflammatory tendency something further must be done. The inflammation being an evidence of a desire to get rid of the retained sebum, if we can do that we ought to be able to abort or cut short the life of the papule, and such is the case. If the moment a papule of acne shows itself we prick it with some sharp instrument, such as a cataract needle, and then squeeze out the sebaceous matter, the papule will be reabsorbed, and its life will be three or four days instead of ten days or a fortnight. In some cases, however, the pimples may be aborted without cutting them, and for this purpose several mixtures are used as counter-irritants, most of them containing sulphur. Of the various preparations the following is as good an example as any : —

Rx Flor. sulphuris,  
Potass. carbonat.,  
Glycerinæ,  
Spts. camphoræ, vel spts. vini Gallici . . . . . āā p. æq. (by weight.) M.

Where the comedo can be seen at the apex of the pimple it is well always to squeeze it ; but little force will be required ; when, however, the retained sebum is in the inner part of the follicle, and the patient objects to having quite a cut made, one of the acne mixtures may be applied every night to the eruption, left on all night, and washed off in the morning. It should not be smeared on the skin generally, but applied only to the pimples themselves, and this is best done by a tooth-pick or any small piece of wood. If the use of the mixture be successful, in a few days the pimple will become dry and desquamate, and the inflammation will disappear. These mixtures seem also to hasten the reabsorption of the pimples after the sebum has been discharged. Tincture of iodine may be used as a counter-irritant. In some cases where there are a great many comedones tincture of iodine may be painted on as often as every hour, only one coat at a time, however, so as to avoid vesication ; in forty-eight hours there will be a dry, brown skin formed over the part, and by the next day this can be readily peeled off, taking with it the plug of every follicle and leaving the skin underneath white and smooth.

When pus is present in the hard infiltrations it should be evacuated, and for this purpose a sharp, thin knife is the best ; the triangular cataract knife is well adapted for this purpose, as it is also for opening the pimples. Where there is much induration and thickening of the skin very great benefit may be obtained by the use of mercurial ointment as a plaster spread on a bit of kid or linen and kept on the spot, the absorption of which we wish to hasten, as much of the time as is possible. It should be renewed once or twice a day, and the skin washed with warm water and German soap. By this method of treatment the quickness with which the thickened and discolored skin regains its nor-

mal condition is sometimes astonishing, and it will be found that large tubercles which looked as though they would certainly break down and cause abscesses will be entirely reabsorbed. The indications which we endeavor to fulfill by means of local treatment may be briefly recapitulated as follows: to keep the sebaceous follicles active and open, and to prevent their becoming occluded; should we not be successful in this, to empty them before inflammation is set up; if this has, however, already taken place, to shorten the duration of the papule by means of counter-irritation or by evacuating the offending sebaceous matter; and, lastly, to hasten the reabsorption of the inflammatory products.

It is evident that much time and trouble are required to carry out this treatment thoroughly, as every follicle is looked upon as a possible source of trouble, and each pimple is treated as an individual according to the stage of its development. Nevertheless, even in dispensary practice, where much time cannot be given to each patient, very good results are obtained when the subjects have intelligence enough to understand and follow the indications of treatment. As acne is universally looked upon as an evidence of "poor blood," the vast majority of patients will not be satisfied with local treatment alone. In many cases the indications for some constitutional treatment will be very plain: many of the patients will be flabby, anæmic, and ill nourished, and will improve decidedly under the use of tonics; others will have some disturbance of the digestive function, which will call for advice as to diet and hygiene, if not for drugs, but in a certain number of cases the physician, if candid, must admit that any internal treatment prescribed is simply given as a placebo.

I suppose that some members of the profession would refuse to give any internal treatment under the circumstances, but it seems to me that, considering the value of faith as a therapeutical agent, in certain cases a placebo is as much indicated as quinine in intermittent fever. I am aware that this is ticklish ground, but between giving an inert remedy and claiming benefit from it, and obstinately insisting that the trouble is entirely local and that no internal treatment can possibly have any effect, there surely is a middle course, the determining of which can be safely left to any one who has a proper idea of his own dignity and that of the profession.

*(To be continued.)*

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.<sup>1</sup>

BY R. H. FITZ, M. D.

## PATHOLOGICAL ANATOMY.

*Bone Marrow in Pernicious Anæmia.*—In a letter to Virchow, Cohnheim<sup>2</sup> speaks of a change observed by him in the bone marrow in a case of pernicious anæmia. He desires to call the attention of other observers to the alteration, as he has been unable to find any mention of a similar condition, and it seems desirable to ascertain whether the appearance is an accidental or a constant feature in this affection.

The patient was a male adult, under Biermer's care, and presented the typical features of this disease. The gradual onset without evident cause, the waxy, eventually yellowish skin, the retinal hæmorrhage, the frequent, soft, finally bounding pulse, and the cardiac and vascular murmurs were characteristic. The patient, as usual, complained of short breath, great feebleness, and debility.

At the autopsy the usual appearances were found. Pallor of all the organs, multiple, punctate hæmorrhages in the brain, retina, pericardium and endocardium, renal pelves, bladder, and mediastina. The heart was in a state of fatty degeneration, there was dense hyperplasia of the spleen, a large fatty liver, and the lungs were œdematous.

The marrow of all the bones, vertebræ, ribs, sternum, and cylindrical bones was very red, but without evident hæmorrhage. The microscope showed an almost entire disappearance of the fat cells of the marrow. Instead there were found colorless cells of various sizes, single multinucleated giant cells, and a few cells containing red blood corpuscles. Almost an equal number of red cells were found. Of these the ordinary biconcave disks were in the minority, while globular, red, non-nucleated corpuscles were more noticeable. These varied in size from the diameter of a normal blood corpuscle to twice that of a white corpuscle. Still more abundant were red nucleated cells, varying in size, though most of them were equal in this respect to the smaller epithelioid marrow cells. The nuclei were colored like the cells.

The blood had been repeatedly examined till within a few weeks of death, but no nucleated red blood corpuscles had been found. They were present, though not in large quantities, in the blood removed after death from the body veins. The spleen and liver contained them also. Apart from the anæmias resulting from single or repeated losses of blood and from those due to feeble nutrition, including the consumption of nutriment in excessive secretion or in the production of large tumors,

<sup>1</sup> Concluded from page 410.<sup>2</sup> Virchow's Archiv, 1876, lxxviii, 291.

there is a special anæmia developing irrespective of the previous conditions and dependent upon a primary disease of the blood-making organs. Characteristic of the progressive pernicious anæmia is the preferable or exclusive affection of the red blood corpuscles. It may be considered as representing a primary disease of those parts of the blood-forming organs which are concerned physiologically with the production of the red blood corpuscles.

*Cysts in Bone.* — Virchow<sup>1</sup> describes the appearance of a humerus containing a cyst, removed from a woman fifty-six years of age, who died of multiple metastatic giant-cell sarcoma after the removal of the primary tumor, which was seated in the neck. The cyst was bottle-shaped, thirty-seven m. m. long and sixteen m. m. across at its widest part, and was seated in the shaft of the bone just below the epiphyseal line. The contents which escaped on sawing the bone were fluid. Its wall was smooth though irregular, presenting numerous projections and depressions, nowhere covered with epithelium, but bearing a gelatinous layer in which were no cells. This was composed of firm, somewhat parallel fibres, very suggestive of fibro-cartilage.

The wall proper was 0.5 to 0.8 m. m. thick, of a cartilaginous structure, and either bordered directly upon the marrow or was united with bone or projections of fibro-cartilage. The largest of the latter could be followed forty m. m. from the lower end of the cyst through the long axis of the bone. A group of minute nodules of fibro-cartilage were found at the side of the cyst near the epiphysis, but in the midst of yellow marrow. These appearances persuaded Virchow that the cyst itself was to be regarded as the result of a new formation, and its contents the product of the softening of cartilaginous nodules.

In speaking further of the so-called cystic formations in bone, he states that these are never to be regarded as independent growths, the primary and essential condition, but as products of the conversion of formerly solid new formations. It is probable that these primary new formations are always within the typical forms of tissue from which bone is developed, and they vary, therefore, mainly between the cartilaginous and giant-cell sarcomatous forms.

*Metastatic Goitre.* — Cohnheim<sup>2</sup> gives the results of the post-mortem examination of a case where he found in various organs multiple tumors, resembling in appearance and structure the colloid or gelatinous forms of bronchocele, or goitre. The tumors were found in the lungs, bronchial glands, spine, and femur. During life a pelvic abscess had been opened, and peculiar gelatinous granulations had been scraped from its base; these also presented a structure similar to that of the thyroid body.

<sup>1</sup> Monatsbericht der königlichen Academie der Wissenschaften zu Berlin, 1876, 369. Centralblatt für die medicinischen Wissenschaften, 1876, xlvii, 839.

<sup>2</sup> Virchow's Archiv, 1876, lxxviii 547.

The gross appearances of these growths and their multiplicity suggested the existence of a primary gelatinous cancer, but a most thorough examination revealed no appearances indicative of a primary growth, and the microscopical appearances were thoroughly such as are presented by the diseased thyroid. In the thyroid body three nodules of the same gelatinous structure and appearance were found. The structure of all these growths was such as exists only in the goitre, and could not be regarded as cancerous, yet the malignity was as decided as in the most typical sarcomas and cancers. The fact that tumors of identical structure are benignant in most people, yet may undergo metastases in others, indicates that the essential conditions for the latter are not confined to the nature of the tumor, but are to be found in its external relations, its growth into lymph and blood vessels, and above all in the composition, the constitution of the affected individual.

Cohnheim does not consider this observation as the only one of a malignant goitre, but thinks the case of tumor of the atlas and axis reported by Runge as of the same character, although the specimen was examined by Recklinghausen and considered to be a cancer.

The interpretation of the latter case is different. Although the structure of the tumor resembled that of beginning colloid degeneration of the thyroid body, and this organ was goitrous, yet the tumor of the spine was regarded as a primary cancer. For those who consider that a primary cancer must arise from parts containing epithelium the value of this observation and of the hypothesis is evident.

*Chronic Pneumonia and Pulmonary Consumption.*—By a study of the pathological changes in the respiratory apparatus following the section of the recurrent laryngeal nerves in animals, Friedländer<sup>1</sup> thought he might be able to obtain some light with reference to the chronic pulmonary inflammation of the human species.

The experiments were made upon rabbits, the result of the operation being a paralysis of the laryngeal muscles. Although an immediate constriction of the glottis took place, this lasted but a short time when it became impossible for it to be closed. A direct cause for inflammation of the lungs was thus obtained by the inhalation of foreign bodies, such as food, saliva, etc. During the first few days after the operation an inflammation of the trachea and bronchi was present, and in the majority of the cases this became extended into the parenchyma of the lungs often involving a large part of the same. After two or three weeks there was in most cases no evidence of inflammation of the larger air passages, and the extent of the pulmonary inflammation was decidedly diminished.

The fact that in paralysis of both vocal cords in man and dogs there is usually no pneumonia is explained on the ground that compensatory

<sup>1</sup> Virchow's Archiv, 1876, lxxviii. 325

measures are taken very early to prevent the entrance of foreign bodies into the air passages, and the lung tissue is not so delicate and easily irritated as in rabbits.

The inflammatory changes in the lungs are at the outset hyperæmia and œdema from engorgement, which either disappear or are followed by red hepatization. If resolution does not then take place, either a desquamative, transparent, gray hepatization occurs, or a small-cell, grayish-white hepatization results. The desquamative hepatization begins gradually within the first two weeks, and may end later in resolution or in atelectasis, remaining for months in this condition, but it does not become cheesy. The small-cell, grayish-white hepatization begins within ten hours and becomes extended within a few days. It is capable of resolution, but when intense it terminates regularly in cheesy degeneration, except in the rare event of actual suppuration. The desquamative forms and the small-cell form may occur side by side.

Although admitting the value of Buhl's theory regarding desquamative pneumonia, its relation to phthisis in the human species, and its very frequent termination in cheesy degeneration, the author does not agree that it is only the desquamative pneumonia which becomes cheesy. This opposition is not based upon the experiments, for although the desquamative pneumonia did not become cheesy, yet the inoculation experiments show that a desquamative pneumonia which does become cheesy may be produced in rabbits. The small-cell catarrhal pneumonia of children shows a transition into cheesy pneumonia differing from the cheesy degeneration in desquamative pneumonia as being much more diffuse, and involving the entire alveolar contents, walls, and groups of alveoli. The cheesy degeneration of desquamative pneumonia is limited rather to the centre of the alveolar contents, thence progressing slowly outwards.

The two different results are most probably dependent upon the greater disturbance to the circulation from the impaction of the alveoli with the small, round cells in catarrhal hepatization, favored by an enfeebled action of the heart or a diminished arterial calibre.

It was found in the experiments that, as the desquamative pneumonia replaced the red hepatization, an intervening state of abundant small-cell infiltration was present. This observation suggests that in the cheesy pneumonia of man following immediately upon an acute pneumonia with bloody sputa, it is possible that the desquamative pneumonia may proceed from a croupous pneumonia. Another important fact elicited from the experiments is that the small-cell hepatization may be produced within a few hours, while days and weeks are necessary for the alveoli to become completely filled with desquamated cells.

The experiments showed further a constant growth of the interstitial tissue, to the importance of which Buhl has called attention in connection with the origin of cheesy pneumonia in man. A granulation-tissue was produced much more abundantly about the vessels, particularly the arteries, than about the bronchi. A certain degree of obstruction to the arterial current was thus produced, but much greater obstruction was caused by the obliterating endarteritis which was found to begin even on the second day. This obliterating process, united with the increased rigidity of the arterial walls from infiltration, evidently interferes with the nutrition of the parts supplied by the artery and thus favors caseation.

In the later stages of the desquamative pneumonia epithelial clusters and pouches were found quite regularly within and around the bronchial wall. A connection between the epithelium of the surface and this new growth could only rarely be established with certainty.

A similar epithelial growth was found in the human lung in connection with chronic interstitial processes, especially in the smaller bronchi of children who had chronic interstitial pneumonia. This growth is in no way typical; moreover it is not limited to the lung, but is of general occurrence where epithelium is in direct relation with luxuriant granulation tissue, the new-found epithelium often differing widely from the normal formation. This observation is of particular importance as necessitating caution in the consideration of cancer from the histological point of view.

*Fungus of the Navel.* — Küstner<sup>1</sup> states that he has found upon the navels of children tumors of a glandular character hitherto included under the term fungus. Having examined ten such fungi he found seven to be composed of simple granulation tissue, one of the same general structure but partially covered with young epidermis, while two were tumors containing glands, adenomata. They were of the size of a pea, and were supplied by an artery of some size. The surface was covered with cylindrical epithelium; on section the glands were apparent as radiating lines extending inwards for a short distance from the periphery. The glands were tubular, lined with cylindrical epithelium, and were imbedded in a delicate tissue composed of round and spindle cells. The centre of the tumor was composed of smooth, muscular fibre.

Attention is called to the fact that the surface of the tumor was like that of the large intestine, and it is considered most probable that the tumor owes its origin to a persistence of the omphalo-mesenteric duct, which, though usually found as an intestinal diverticulum from the lower part of the ileum, has been seen by Ahlfeld to extend from the umbilicus to the mesentery.

<sup>1</sup> Virchow's Archiv, 1877, lxi. 286.



It was at first thought that this tumor must have arisen from the allantois, the remains of which have been found in the umbilical cord by Sabine and others. Opposed to this view was the fact of a single epithelial layer, while the parts connected developmentally with the remains of the allantois, the lower part of the urachus, the bladder, and ureters have several layers of epithelium. The presence of the glands in the tumor is another objection to its origin from the urachus.

The adenoma has the muscular and glandular layers and the epithelial surface like the intestine, and thus differs in structure from the common umbilical fungus, the granuloma. It is thought likely to differ clinically in being of slower growth and in being less inclined to heal after the application of lunar caustic.

*Phthisis of the Testis.*—A good deal of confusion exists among writers in the use of the term “tuberculosis of the testis,” it being evident that the term has been applied to appearances resulting from different processes and leading to entirely different results. Gaule<sup>1</sup> has examined histologically a larger number of testes removed during life or obtained at post-mortem examinations. The various changes found by him were a degeneration of the epithelium from inflammation, and tubular and peritubular inflammatory thickening of the walls of the tubules and of the tissue immediately surrounding them. Peritubular changes are closely allied to the interstitial ones due to inflammation of the substance of the testis lying between the tubules. His attention was more particularly attracted to certain fibrous nodules of the size of a pin-head or a pea, with a cheesy centre, generally spoken of as tubercles. These nodules were composed of seminal tubes with thickened walls, and of fibres running concentrically around them singly and collectively. The nodules contained also the results of cheesy degeneration. The tuberculoid nodules were thus essentially due to inflammation of the seminal tubules and the tissue immediately surrounding them, perispermato-phoritis.

The structure of these nodules as well as their gross appearance resembles that of tubercles, particularly on cross-section. The tubercle, however, is a new formation lying between the tubules. Even the giant cells, so frequent a constituent of the tubercle, were exactly imitated by the epithelial lining of the tubules and the viscid cementing substance between the cells, the latter after hardening assuming a stellate appearance.

These various changes in the testis are apparently usually dependent upon similar processes, more or less advanced, and with varying degrees of degeneration. They are also combined with tuberculosis in other organs. Thus nodules resembling tubercles in structure, manner of distribution and degeneration, and associated with tubercles in other

<sup>1</sup> Virchow's Archiv, 1877, lxi. 64 and 213.

organs are yet different, arising in a different manner and in a different part of the organ.

These peritubular nodules are considered as analogous to the peribronchitic growths in phthisis of the lungs, and as in the latter there are various conditions, catarrhal bronchitis, thickening of the bronchial walls, induration, cheesy and ulcerative changes, so in the testis there are manifold conditions present.

The term "phthisis of the testis" should thus be applied to these alterations to distinguish them from tuberculosis of the testis, which Gaule did not meet with, but which demands the presence of tubercles.

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### BOSTON CITY HOSPITAL SOCIETY FOR MEDICAL IMPROVEMENT.

[REPORTED BY W. D. ROBERTSON.]

THE first meeting of the Boston City Hospital Society for Medical Improvement was held at the City Hospital on February 22d. The president, Dr. D. W. Cheever, made the opening address. The society consists of the visiting physicians and surgeons of the City Hospital, the superintendent, the present house officers, and such past graduates of the hospital as may from time to time be elected. The society is founded by and for the benefit of the house officers. It is the purpose of the members to discuss medical and surgical cases, particularly those occurring in the hospital service. Two of the house officers present at each meeting a paper which is freely discussed by their fellows, after which the staff criticise the cases and relate similar ones coming within their own observation. The object of the discussions is to resolve the latest methods of treatment into their most practical applications, and to afford the house officers both the benefit of the studies of their fellows in other departments than their own and the riper experience of the staff, who have evinced a hearty interest in the life of the new society.

At the first meeting a case of strangulated hernia, operated upon successfully by Dr. Cheever after a strangulation of forty-eight hours, was reported by Mr. C. A. Wheaton. The interesting features of this case were the very high point of strangulation, the neck of the sac being bound down by adhesions to the anterior abdominal wall, within the abdominal cavity at a point below the ring; the exhausted condition of the patient before entrance to the hospital for operation; the entire cessation of natural respiration for a period of eight minutes during the administration of ether, Sylvester's method for artificial respiration being employed, and after the operation the rapid and unbroken recovery of the patient.

The meetings of the society are held every other Thursday. At the last meeting, March 8th, a case of acute rheumatism running into the chronic form was reported by Mr. J. B. Foley, in the service of Dr. J. G. Blake, which, after resisting the faithful administration of salicylic acid, the alkalies, opium, blisters, and liniments, yielded on the exhibition of *vinum colchici radidis*. Al-

though the case took a much longer course than that usually observed with various other drugs, or even without any medication at all, the proof of the value of the wine of colchicum in this case was established by an exacerbation of the symptoms upon its omission and their prompt alleviation upon a return to its use. The many methods of treating acute rheumatism were brought up, and fear was expressed by Dr. Boardman that salicylic acid might after a time prove less efficacious than its enthusiastic advocates now claimed. Dr. Ingalls gave some very interesting accounts of the earlier treatment of this disease in Boston and the failure over various *pro tempore* specifics.

Two cases of refracture of the femur for vicious union were reported by Mr. J. C. Cutter, in the service of Dr. W. C. B. Fildfield. The first was a child three and a half years old, solid union taking place after refracture in nine weeks, with but half an inch shortening and a straight limb. The second case was a sailor twenty-six years old, with two and a half inches shortening and great lateral deformity, the result of vicious union after a fall. The limb was refractured by manual force under ether, perfect union resulting in eighty-five days, with but three fourths of an inch shortening, which Hamilton in his work On Fractures and Dislocations, quoting Drs. Bigelow and Warren, of this city, and many other surgeons, declares to be the average, if not better than the average shortening in well-treated simple fractures of the femur.

Refractures are hardly mentioned in the common text-books on surgery. even Holmes giving them but a short notice, saying, however, that refracture where there is vicious union may be safely and wisely done within a year of the first fracture, and the liability is so slight of fracturing any part of the bone outside of the new osseous formation that it need not be considered.

This was accidentally exemplified by a recent case under the care of Mr. Cutter, in the service of Dr. Thorndike, when a patient sixty-two years old, with a simple fracture of the femur, where perfect union took place after seven weeks' treatment, was allowed to walk upon crutches in a silicate of soda dressing, and, falling, produced a refracture at the recent point of union instead of some intracapsular injury, as an impaction of the neck of the thigh bone, which might have been anticipated from such severe and direct violence upon the trochanter major, especially in so old a subject. When admitted to the hospital, one week after the injury, the lower fragment was found overriding the upper one about two inches. The deformity was reduced by extension in bed with fourteen pounds' weight in about eighteen hours. The most extensive writers on refracture are Mr. Skey and Mr. Oesterlen. Mr. Butcher's celebrated case of refracture, reported by him to the *Dublin Journal of Medical Science* for November, 1876, was presented by Dr. Fildfield.

The present officers of the society are : Dr. D. W. Cheever, president ; Dr. E. Cowles, superintendent, vice-president ; Dr. George W. Gay, vice-president ; Dr. O. W. Doe, vice-president ; Dr. F. W. Draper, vice-president ; J. Clarence Cutter, treasurer ; O. H. Marion, secretary.

SCHÄFER'S HISTOLOGY.<sup>1</sup>

OUR first impression at the appearance of another English histology is one of surprise, for it would seem that the field must be pretty well occupied already. Without counting translations we have, besides the works of Carpenter and Beale, the following modern ones: Klein's treatise in the Handbook of the Physiological Laboratory, Rutherford's, which has reached a second edition, and Foster's combined Physiology and Histology. Certainly, at first sight, a new work appears superfluous. Must every school, we ask, have its own histology? This opens a line of inquiry that we cannot now pursue; but let us say at once that though we doubt not the *esprit de corps*, which is strong among the medical schools of Great Britain, may have its share in the production of this work, it has decided individual characteristics and merits. It is not merely an old friend with a new title-page, but a clear, practical guide to the student of histology, written by one who thoroughly understands not only his subject, but how to teach it. We are very much pleased with the book, which teaches the student simply how to use his instruments and conduct his studies without going further into the microscopic anatomy of the tissues and organs than is absolutely necessary; which is not far. The microscope is briefly described in the light of a tool, and we are spared a chapter on optics. The use of reagents, such as hardening and staining fluids, is treated in rather a desultory manner, each process being described with the preparation of a tissue to which it is particularly adapted; it would, we think, be more convenient if the methods, or at least the greater part of them, were put together.

As an example of the book, let us take muscular tissue, a difficult and interesting branch, and moreover the one in which our author has made important discoveries which first brought him into general notice as a histologist: (1) involuntary muscular fibre is shown as taken from the intestine, macerated in bichromate of potash and stained with logwood; (2) the same stained with nitrate of silver; (3) voluntary muscular fibre from a mammal, picked to pieces in serum; (4) a similar preparation in acidulated water to show the nuclei; (5) the same from a frog; (6) the same in salt solution to show the sarcolemma; (7 and 8) bits of muscular fibre macerated in solutions of hydrochloric and chromic acid to show the cleavage into discs and fibrillæ respectively; (9) maceration in a solution of sulphurous acid to isolate fibres and permit of comparisons between those from different muscles; (10) living muscular fibre from the large water-beetle or from insects; (11) a method of acting on muscle by gas to make it contract at will; (12) polarized light; (13) preparation of transverse sections of hardened muscle; (14) the same of frozen muscle; (15 and 16) methods of studying the termination of muscle in tendon. The *modus operandi* is given in detail in each case. The termination of the nerves in muscle is left to another section.

There is no mention of the difference between red and white muscles in the leg of the rabbit, first described by Ranvier, and the contraction of living muscle can be studied under more normal conditions in the leg of a small water-

<sup>1</sup> *A Course of Practical Histology.* By ALBERT EDWARD SCHÄFER, Assistant Professor of Physiology at University College, London. Philadelphia: Henry C. Lea. 1877.

beetle, the gyrinus, for instance, than by any of the methods given by our author. Nothing is said of the terminations of nerves in the conjunctiva, though good observations by Longworth and others have lately been published on them. Other omissions might be found, but the book is none the less an excellent one. What we particularly praise in it is the way in which it takes the student by the hand, as it were, showing him what to do and explaining simply but thoroughly how to do it. T. D.

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### THE CORONER BILL.

THE judicial committee has reported a bill for the abolition of the office of coroner and to provide for proper proceedings in cases of suspicious deaths. The first section reads as follows: "The offices of coroner and special coroner are hereby abolished." If this were all it would be an immense improvement on the present condition. The bill contains twenty-five sections, and provides for the appointment, by the governor and council, of two medical examiners to take the places of coroners and special coroners in Suffolk County, and of as many in the other counties as there shall be districts made by county commissioners; that the examiners of Suffolk County shall receive each a salary of three thousand dollars, to be paid quarterly; and the examiners of other counties shall be paid four dollars for a view, thirty dollars for a view and autopsy, and travel at five cents a mile to and from the place of view. The office is of special importance in Suffolk County, as that means Boston. It is provided that nominations by the governor shall be made at least seven days before appointment, so that we may have time to protest against an infamous candidate, which has not been the case in the past. The salary is a very proper one, for the work will take much time, is of a high order, and should be well rewarded.

On being notified that there is in his county the dead body of a person supposed to have died by violence, the examiner shall take charge of the body, and if an examination appears necessary to him he shall, after being duly authorized by the city or town, make an autopsy in the presence of two or more persons; if he be of the opinion that the death was by violence, he shall file a copy of his autopsy in court, and the courts shall order an inquest, which shall be private if necessary; the justice shall draw up a report, with full details of the inquest, and file it in the records of the county superior court, and may bind over witnesses to appear and testify; the justice is authorized to issue warrants for the arrest of the suspected party or parties. The examiners, however, are not to be able to stop investigation, for if the district attorney or attorney-general should not agree with his report these legal officers may order an inquest. The medical examiner may call in a chemist to aid in the examination of the body or of substances supposed to have caused or contributed to the death. The fee for the chemist is not to exceed thirty dollars. This is perhaps enough for most cases, but we think it should be possible to increase it to fifty dollars for difficult ones, as it is desirable to have the examiner assisted by the best chemical authority. The clerk is to receive two dollars a day.

The medical examiners are to give bonds for five thousand dollars instead of five hundred as at present, and are to take charge of the personal property that is found on or near the body. This is to be delivered to those entitled to it, but, if it is not claimed within sixty days, then to a public administrator to be administered according to law. If he shall neglect or refuse to do this within three days after a due demand he shall be punished by imprisonment in the jail or house of correction not exceeding two years, or by a fine not exceeding five hundred dollars. We strongly suspect that at least one coroner is thankful that the last section is not now in force. Medical examiners are to hold office for seven years, but shall be liable to removal from office at any time by the governor and council for cause shown. This bill is to take effect on July 1, 1877.

Further consideration will possibly show other points besides the one we have mentioned in which the bill might be improved, but as a whole it is excellent, and reflects great credit on its framers. The law unites with medicine in condemning the antiquated coroner system, and there is every reason to hope that the legislature will follow the suggestions of the committee. Our community is now the worst coroner-ridden in the world; it will be no small merit to be the first to throw off the disgrace.

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#### MEDICAL NOTES.

— Dr. Zöller, says the *Medical Examiner*, proposes a new antiseptic in the form of bisulphide of carbon in a state of vapor. Two or three drops allowed to evaporate spontaneously in a closed vessel are sufficient to form an antiseptic atmosphere in which meat, fish, vegetables, and fruit may be kept perfectly fresh for several weeks. When first uncovered the articles smell strongly of the bisulphide, but a short exposure to the air effectually rids them of the slightest odor or taste. Dr. Zöller also describes the antiseptive properties of xanthate of potash, a salt obtained by the action of fused caustic potash on a mixture of bisulphide of carbon and potash. Dr. Zöller, in a paper which he read before the Berlin Chemical Society on the 29th of January last, stated that a small quantity of this salt is sufficient to prevent decay and fermentation in organic bodies for an indefinite period. If made in large quantities the salt could be manufactured very cheaply. It has the further advantage of being devoid of dangerous properties.

— The Board of Education for the city of New York has entered a protest against a bill which has been introduced into the state senate for the creation of the office of sanitary inspector of schools, "it being unnecessary and uncalled for by the public interests or welfare of the public schools." *The Medical Record*, in commenting on the action of the board in terms of severe condemnation, says that the only reasonable way to explain its course is to consider it an impudent defiance of public and professional opinion, and it further assures Senator Gerard, the author of the bill, that he will be sustained in its advocacy by popular and professional sentiment, not only in New York city but throughout the State.

— In referring to a notice of the “two terms in nine months” medical colleges which thrive in Louisville, Nashville, and New Albany, an English exchange remarks: “This statement, and others frequently quoted to similar effect in our columns, ought to make licensing bodies cautious of recognizing any certificates or other guarantees of medical education which have the fragrance of America upon them.”

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## BOSTON DISPENSARY.

GYNÆCOLOGICAL CASES OF W. H. BAKER, M. D.

[REPORTED BY U. H. HOLBROOK.]

CASE I. *Rectocele and Cystocele dependent upon the Sundering of the Union of the Perineal Muscles.* — M. W., Irish, age forty, married, had always been engaged in housework. Her general health had never been of the best, and treatment was sought on several occasions for disorders of the stomach and liver.

Menstruation began at fourteen, and had been regular ever since, the amount and character of the flow appearing to have been normal. Between the menstrual epochs there had been leucorrhœa, varying in amount, and often having the appearance of boiled starch. She had given birth to twenty children. Every labor had been difficult and protracted, and in four of them recourse was had to the use of forceps. In each of these four cases the child died during or immediately after birth. The patient dated her present trouble with the genital organs from the birth of her eighteenth child. After a tedious and difficult labor, ending by natural means and followed by long exhaustion, she was certain that the parts did not regain their normal condition. A feeling of laxity and falling down was experienced in the pelvic cavity, accompanied by slight constipation and painful micturition. During the two subsequent pregnancies the sensation of sinking was relieved by supporting the gravid uterus with a bandage about the abdomen. Her last labor was four years ago. Since that time her general health has declined; pain and weakness in the loins has been pretty constant, while constipation, painful micturition, and leucorrhœa have been aggravated. No treatment had been sought by her for the pelvic trouble before applying at the dispensary.

On examination there appeared at the vaginal orifice a portion of both the anterior and posterior vaginal walls, which upon the least straining effort of the patient, or upon her taking the upright position, protruded from the vulva and appeared about the size of a small hen's egg. The mucous surface of the perinæum and of the vagina had not been torn, but with one finger in the rectum and one in the vagina it became evident that no perineal body (so called) existed, for the sphincter muscle, and the rectal and vaginal mucous membranes were apparently the only interposing structures. The uterus was low down in the pelvis, in fact resting upon its floor, although its long axis had not changed from the normal position. Dr. Baker thought that the frequent and prolonged labors had occasioned the sundering of the union of the perineal mus-

cles, which in its turn had prevented the proper involution of the vagina, which resulted in the formation of the rectocele and cystocele, and that by thus weakening the strength of the vagina one natural and important support of the uterus was removed, which put the whole weight of that organ upon the ligaments above, and these, sooner or later giving way, must allow the uterus to become prolapsed.

She was recommended to enter a hospital for operations for the removal of the excess of tissue of the anterior and posterior vaginal walls and the restoration of the perineal body.

CASE II. *Complete Procidentia*. — N. A., American, aged twenty-seven, was married at eighteen, and had borne two children. Menstruation began at fifteen, and until the birth of her second child was regular, attended with slight dysmenorrhœa before the flow was fairly established, was characterized by a normal amount, and was of natural duration. Her two labors were quite rapid and painless, notwithstanding the children were above the average size at birth. On each occasion she began her usual housework nine days after the termination of the labor. Six months after the second confinement she began to complain of pains in the back and right groin, often shooting down into the right thigh. The regularly recurring menstrual periods were then attended with increased dysmenorrhœa and a greater amount of flow. A constant feeling of weight in the abdomen was present, and was much increased by such exertions as lifting, running up stairs, etc. Self-examination showed a constantly increasing protrusion at the vulva. Leucorrhœa had been abundant at times. The bowels were constipated, and a desire to empty the bladder had to be gratified every hour. With all these symptoms there had been a gradual deterioration in her general health, and her condition now was one of considerable weakness, attended by sharp pains in the epigastric, lumbar, and hypogastric regions, generally preceded by a shivering sensation, and occurring both night and day.

An examination showed complete procidentia. The cervix had been torn on the left side quite down to the vaginal junction, and was enlarged to about two and one half times its natural size; the lips were everted and very much hypertrophied. The probe entered the cavity of the uterus three and three fourths inches in the direction of the axis of the outlet.

Portions of the bladder and rectum were turned out with the vagina, as indicated by the passage of the probe into the bladder, which turned directly into the upper portion of the protruding mass, and the finger in the rectum, which passed into the lower portion of the same. The meatus urinarius was turned quite out of position, and directed toward the clitoris. The whole diameter of the protruding mass of uterus, bladder, and rectum was five and one half inches antero-posteriorly, and two and three fourths inches transversely. The whole mucous membrane of the vagina was very much thickened and dried, giving to the touch much the sensation of parchment. This membrane, however, was nowhere excoriated.

On replacing the mass within the pelvis, the mucous membrane of the perineum was found intact, but the union of the perineal muscles had been sundered.



Dr. Baker remarked that the case well illustrated the effects of laceration of the cervix and the sundering of the perineal muscles, in so far interfering with the proper involution of the uterus and vagina that as a result we had not only greatly increased weight in the uterus on the one hand, but a very insufficient support from the vagina on the other.

A common inflated rubber pessary was introduced to keep the parts within the pelvis until the operations could be performed to give a more permanent relief. This form of pessary was used because the entire constrictive power of the vagina had gone, and any of the other and better forms of supports, which are dependent upon this muscular tone for their proper action, would be useless in this case; and therefore one like the above was necessary, which by so stretching the vagina within the pelvis would prevent a return of the procidentia.

CASE III. *Arrest of Sexual Development.*—B. H. was born in Ireland, and emigrated to America six years ago; is nineteen years old, unmarried, and of slender physique. She is one of eleven children, and, apart from her own condition, the family history shows no serious constitutional disturbance. When seven years old she sustained a severe fall, resulting in a deformity of the chest. As nearly as could be ascertained, she was a healthy child until the usual age of puberty. At this time the catamenia did not make their appearance, nor has she ever had any discharge of any character from the vagina.

Without being as strong and active as her companions, she has not complained of any serious difficulty. For the last four years she has noticed cough and tightness in the chest at times, with some mucous expectoration. With a fair degree of regularity in each succeeding month she has felt slight pains in the back, often in the knees, always accompanied by an aggravation of the cough and feeling of constriction in the chest. She applied at the dispensary for treatment for the cough and the amenorrhœa.

A physical examination of the chest showed an irregular outline, the result of the fall in childhood. No more serious affection than bronchitis was evident on percussion and auscultation.

The mammae showed a remarkable want of development, being merely rudimentary in structure.

The external genital organs were not very well developed, and there was very little hair covering the vulva.

The examination of the internal parts showed a vagina of fair size and length; the uterus high in the pelvis, and both its cervix and body very much diminished in size, although its long axis was quite normal. The probe entered one and three fourths inches into its cavity.

Dr. Baker called attention to one very interesting feature in the case, which was the fact that the vagina here was the only part which seemed sufficiently developed, whereas usually in this class of cases this canal is very short and diminutive.

The treatment advised was improvement of general health by tonics and more out-of-door exercise, and, as a more direct local stimulus to the uterus, the application of galvanism, sponge tents, and the frequent passage of the sound.

## LETTER FROM PHILADELPHIA.

MESSRS. EDITORS,—To introduce into the medical world the modern practice of “interviewing” would be a decided innovation. Moreover, medical men, living as they do in glass houses erected by the code of ethics, would hardly submit to it as do individuals out of the profession, after the too common fashion nowadays. Even in a medical publication the report of an interview with a physician, in the shape of brief question and verbose reply, would have a terribly “quacky” look. Many a long breath would be drawn by readers of such a report, and their opinions, every sentence of them, would be punctuated with at least four exclamation points.

In offering you the following communication, then, let me disclaim on the part of my friend, Dr. Goodell, any request or proposition to this end. In reading the report of the proceedings of the Obstetrical Society of Boston, which appeared in the JOURNAL for January 11th, I remarked the adverse criticisms upon Dr. Goodell’s manner of applying forceps to the foetal head when above the brim of the pelvis. A desire to inform myself as to the *modus operandi* which Dr. Goodell adopts in such cases, in order to apply the forceps to the sides of the head without being governed by its site and position, led me to question him in reference to the matter. Moreover, I felt that to offer him an opportunity to make his procedure clear would be a just courtesy. Accordingly, I addressed a note to Dr. Goodell, and his reply, which I have his kind permission to embody in my letter, was as follows:—

“Since the times of Baudelocque, Capuron, and Gardien, the application of the forceps to the sides of the child’s head at the brim has been practiced by Philadelphia physicians alone. I myself have hitherto warmly advocated it. But for reasons which will appear in my paper read before the International Medical Congress, I now doubt whether, apart from compressing the head in its least vulnerable diameter and from securing a firm grip, it possesses any advantages over the other modes of application, or whether, indeed, it equals them in extractive efficiency. As to the feasibility of making such an application at the brim with the Hodge or the Davis forceps there can be no question. For I myself have made it over and over again, and have seen others make it. This application is indeed more easy to make at the brim than when the head has entered the bony canal and has begun to rotate anteriorly. Supposing that at the brim of a simple flat pelvis the occiput looks directly to the left ilium,—and this is the most common position in such a pelvis,—the mode of applying the blades of the forceps in the conjugate diameter of the brim and over the biparietal diameter of the head would be as follows:—

“The woman being on her back and with her hips over the edge of the bed, the right (female) blade is first entered in the right side of the pelvis, with its convex surface looking obliquely to the sacrum. By rapid depression and spiral twist of the handle, together with upward pressure on its convex edge by the fingers within the vagina, it is rotated very nearly half a circle over the forehead to the side of the child’s head, under the pubes. The left (male) blade, held loosely in the right hand by its convex edge, with its handle hanging downward, is now introduced in the *right* side also of the pelvis, over the

left temple of the child's head, but under the shank of the other blade. By raising now the handle and gently pushing up this blade, it will slip up over the sacral side of the head. When locked, the long forceps thus applied in the conjugate virtually become a straight instrument in so far as their relation to the pelvic curve is concerned. The lock will press firmly on the left tuberosity of the ischium, and the handles look backward in a line very nearly at right angles to the mother's body. Traction is then made in a straight line in the direction of the handles by leaning, as it were, on the hands, the left placed on the lock and the right on the handles. When the head has passed the brim and has begun to rotate anteriorly, the forceps act no longer as a straight instrument. The traction power is therefore exerted more by pushing the lock backward and downward with the left hand than by traction on the handles with the right. A compound power is thus obtained which forces the head away from the pubes, and compels it to hug the sacrum in its descent and follow the line of pelvic curvature. When the occiput looks to the right ilium, both blades are introduced in precisely the same manner, but now in the *left* side of the pelvis, the left (male) blade taking precedence."

Dr. Goodell's statement could not be more clearly put.

A few weeks ago a young man who had recently lost his wife, and was in consequence greatly depressed in mind, went into one of our leading drug stores and asked for seventy-five cents' worth of laudanum. The clerk who served him asked why he desired so large a quantity, and the man merely said, "We use it often in my family, and I wish to save myself trouble." The clerk bottled the laudanum (quantity, four ounces) and sold it to this man, who upon reaching home at once swallowed three ounces of the tincture. By the time the physician had reached him the patient was in a collapse. Everything which under the circumstances could be done was done, but in vain. At the coroner's inquest the sister of the deceased testified that her brother was under the influence of whiskey at the time of the purchase of the poison. The mother also had thus informed the physician. This was, however, firmly denied by the apothecary's clerk, who swore his customer was sober. Unfortunately for the clerk this was the *third* time within ten days that the coroner had been called upon to hold inquest because of the free sale of laudanum. He therefore determined to make this a test case, and put the clerk, who had been accused of criminal carelessness by the coroner's jury, under parol to appear in court when summoned. The clerk will be tried on a charge of homicide, and the case comes off next week. The object of Dr. Goddard, the coroner, is to bring about such change in the law of this State in reference to the sale of poisons as will make it include laudanum. At present it includes the poisonous alkaloids, arsenic, prussic acid, and the like, but does not mention the tincture of opium.

It is a perfectly easy matter for anybody to purchase laudanum by the pint from apothecaries in this city. If the customer says "My horse is lame, I want the laudanum for his leg," "My back is lame," "My wife has sprained her ankle," the average apothecary will at once sell the required quantity. This is a crying evil, and I am heartily glad the coroner has determined to bring it to the notice of the courts. The said clerk will probably be discharged with a reprimand.

mand, for in a general sense he has not offended against the law. But the result will probably be, and ought to be, an amendment of the now loosely constructed law.

Within the week a young woman sent her brother to an apothecary shop for a dose of castor-oil for herself, with the request that something should be added which would make the oil palatable. This the apothecary did with a vengeance, for he is now in jail on charge of having caused the death of the young woman by carelessly mixing *muritic acid* with the castor-oil. The girl suffered intensely, and in spite of skillful treatment died within twenty-four hours. The inquest showed that this apothecary kept his poisonous medicines in a most reckless, helter-skelter manner among those in common use.

This outrageous carelessness leads to the suggestion that it would be well if every city appointed an inspector of pharmacies. His duty should be to see that all apothecaries kept their poisons in a distinctly separate place. If upon entering a shop he found bottles of poisons misplaced, the apothecary should be subjected to a fine. If dispensers of medicines had poison-shelves or a poison-cabinet, even a clerk could not commit the blunder of taking a poison while reaching for something else. Whenever an employé or the apothecary himself approached the poison-cabinet, unless he were unfit for his place, he would inevitably make the mental remark, "You are going to the poisons. Be careful!" By such a provision the fatal errors which are so common in compounding prescriptions would be averted.

At the sixteenth annual meeting of the Philadelphia Drug Exchange, held some weeks ago, the board discussed the draft of a law which had been proposed by medical gentlemen of this city to the effect that druggists and dealers in medicines of all kinds should be prevented from rendering aid or giving advice to those who should apply to them for relief, under penalty of fine and imprisonment. The board gave such reasons against the passage of the bill to the governor and others of the legislature, and used such powerful influence, including efforts made by the Philadelphia College of Pharmacy, that unfortunately the bill was defeated.

In the report of the Pharmaceutical Examining Board of Philadelphia for 1876 it is mentioned that out of forty clerks who applied for examination as "qualified assistants," twenty-three were rejected as not possessing the requisite knowledge for taking temporary charge of a retail drug store. Out of eleven applicants for examination as to qualifications necessary in acting as proprietors of drug stores only three were found to be qualified.

The students in the various medical schools of this city are just now in the throes of final examination, and the public presentation of diplomas will soon follow.

The ceremony of endowing the John Welch professorship in the University of Pennsylvania recently took place. Lengthy addresses were made by Provost Stillé, Hon. Morton McMichael, and others, in which Mr. Welch received the full meed of praise, not only for his remarkable services in establishing the success of the Centennial Exhibition, but also for his noble transfer of the testimonial, given him by the citizens, to the university in the form of the endowment of a chair of history and English literature, to be called the

John Welch Centennial Professorship. Mr. Welch made an eloquent and modest response.

In my recent description of the Jefferson College Hospital I should have mentioned a steam closet, which will be devoted to the purification of the body and bed clothing. It is located in the cellar.

Some of us have this week been newly taught a lesson not to be easily forgotten. I was one of the victims. A colored man came to my office with the request that I would visit a lady who was ill. I agreed to go at a certain hour. At that hour I was detained by office patients. The man came again to request me to hasten. I went soon after to the house to which he had directed me. No such lady as the man had named was known at this house, and I learned that I was the fourth physician who had called upon a similar errand.

Returning to my office in the frame of mind common to dyspeptics, I was told that shortly after I went out the man had come a third time, saying that he had met me, and that I had sent him to my office to await my return which would be in half an hour. The servant, deceived by his plausible manner, admitted him. His stay was very brief. He took property to the value of three hundred and fifty dollars. I went at once to our detective police, described the property, and the officers vindicated the high reputation of Mayor Stokely's police system by placing three hundred dollars' worth of the stolen articles in my possession within *fifteen hours*. The thief had made use of a pawnbroker, in whose shop the recovered property was found. Other physicians have been likewise victimized, but to what extent I do not know. This is a common form of thieving in Philadelphia, so that the stringent rule of doctors' houses is that not a soul — even though he be a bishop — shall be admitted to the office during the absence of the physician, unless the servant keep guard.

H. O.

PHILADELPHIA, March 8, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MARCH 31, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	442	21.34	27.46
Philadelphia	850,856	324	19.68	22.88
Brooklyn	527,830	199	19.60	24.31
Chicago	420,000	127	15.72	20.41
Boston	363,940	143	20.43	23.39
Providence	103,000	35	17.67	18.34
Worcester	52,977	17	16.69	22.00
Lowell	53,678	24	23.25	22.21
Cambridge	51,572	23	23.19	20.54
Fall River	50,370	21	21.68	22.04
Lawrence	37,626	13	17.97	23.32
Lynn	34,524	22	33.14	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	10	19.45	23.57

**SUMMARY FOR MARCH.** — The public health of the foregoing cities was not in such a satisfactory condition during March as it was in February, if we may judge by the death-rates; the inclement weather of March was probably one important factor in producing an increased mortality.

In New York, the deaths were mostly caused by phthisis, pneumonia, and bronchitis; diphtheria and croup were more fatal than in February; scarlatina has steadily diminished since January.

In Philadelphia, the chief causes of death were phthisis, pneumonia, bronchitis, diphtheria, small-pox, croup, typhoid fever, scarlatina, — all of them more fatal than in February.

In Brooklyn, the mortality from the seven chief zymotic diseases was nearly the same as in February. Diphtheria and croup have increased considerably. Scarlatina is less. The relative order of prevalent diseases is as follows: phthisis, diphtheria (and croup), pneumonia, scarlatina, bronchitis.

In Chicago, scarlatina heads the list, but it is declining.

In Boston, scarlatina remains very near the low place in the list which it reached in February. Diphtheria and croup are the same as in January and February, considerably in excess of scarlet fever. Small-pox is absent, and there was only a single death from measles. Phthisis, pneumonia, and bronchitis are the same as in February.

In Providence, the death-rate for the month was only 16.3 per 1000 of the population. The mortality was chiefly from diseases of the respiratory system. Diphtheria also was more fatal than in February.

In Massachusetts cities, other than Boston, phthisis, diphtheria (and croup), and pneumonia were the chief causes of death. Scarlatina has subsided.

**RESOLUTIONS OF THE FACULTY OF THE HARVARD MEDICAL SCHOOL ON THE DEATH OF PROFESSOR BUCKINGHAM.** — In taking official notice of the decease of their late colleague, Dr. Charles Edward Buckingham, the medical faculty desire to express their high estimate of his character and abilities, and their sense of the loss which the university has sustained by the death of a high-minded, conscientious, and greatly esteemed teacher.

They would respectfully offer to Dr. Buckingham's family their sincere sympathy with them in the bereavement which has taken from them an affectionate husband and father.

For the faculty,

F. MINOT.

O. W. HOLMES.

**BOSTON SOCIETY FOR MEDICAL OBSERVATION.** — At a regular meeting of the society, to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. C. E. Inches will report a Case of Paralysis, and Dr. T. B. Curtis will read a paper on the Metric System.

The second annual meeting of the American Gynæcological Society will be held in Boston on May 30, 31, and June 1, 1877. The following titles of papers that are in preparation have already been received:—

Second Annual Address on Medical Gynæcology, by the President, Fordyce Barker, M. D.

Is there a Proper Field for Battey's Operation? by Robert Battey, M. D.

The Intra-Uterine Treatment of Flexions, by Ely Van de Warker, M. D.

Etherization in Childbirth, by W. T. Lusk, M. D.

Dilatation of the Cervix Uteri for the Arrest of Hæmorrhage, by G. H. Lyman, M. D.

The Corpus Luteum, by J. C. Dalton, M. D., of New York.

The Relations of Pregnancy and Phthisis, by W. L. Richardson, M. D.

Vaginal Ovariectomy, by W. Goodell, M. D.

Post-Partum Hæmorrhage, by R. A. F. Penrose, M. D.

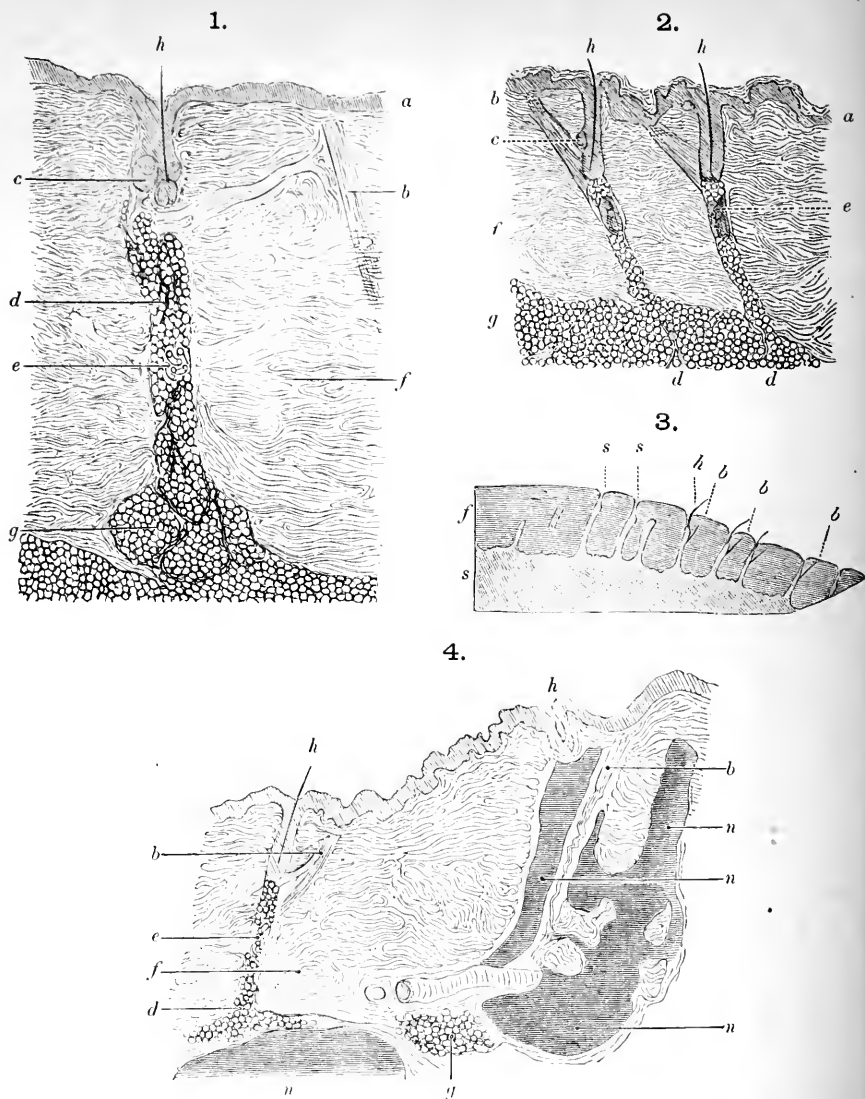
A New Theory as to the Functions of the Third Sphincter Ani, by J. R. Chadwick, M. D.

**BOOKS AND PAMPHLETS RECEIVED.** — Micro-Photographs in Histology. By Carl Seiler, M. D. Vol. I. No. 8. Philadelphia: J. H. Cates & Co.

Transactions of the State Medical Society of Nebraska at its Sixth, Seventh, and Eighth Annual Meetings. 1877.

Syphilis and Chancreoid. Brief History, Differential Diagnosis, Prophylaxis, and Treatment. By P. H. Bailhache, Surgeon United States Marine Hospital Service. (Reprinted from the Annual Reports of the Supervising Surgeon-General for 1875.)





#### EXPLANATION OF FIGURES.

- Figure 1.* Section of skin from back of an adult, showing fat canal and lanugo hair, magnified 10 diameters.
- " 2. Section of skin from the shoulder of an infant, magnified 17 diameters.
- " 3. Fragment of skin adherent to a round-cell sarcoma of the subcutaneous connective tissue of the back, natural size.
- " 4. Section of the skin of an infant invaded by a rapidly spreading naevus, magnified 17 diameters.

*a.* Epidermis.  
*b.* Erector pili muscle.  
*c.* Sebaceous gland.  
*d.* Fat canal.  
*e.* Sudoriparous gland.

*f.* Cutis vera.  
*g.* Adipose tissue.  
*h.* Hair.  
*n.* Naevus.  
*s.* Sarcoma.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## NOTE ON THE ANATOMY AND PATHOLOGY OF THE SKIN.<sup>1</sup>

BY J. COLLINS WARREN, M. D.

IN the report of the proceedings of the society for April 27, 1875, published in the *New York Medical Journal* for that year, a description is given of a specimen of round-cell sarcoma, which, arising in the tissue beneath the skin of the back, had at the time of its removal begun to infiltrate the superjacent cutis. A vertical section through the skin and tumor disclosed the interesting feature of this specimen. The cutis, which was quite thick, showed beneath it the outline of the disease sharply defined, whence projecting upward to the surface were several slender, parallel columns of sarcoma tissue at equal distances from one another, reaching the epidermis at points where the little dimples made by the openings of the hair follicles were to be seen (Figure 3). The following is the report of the microscopical examination made at the time for the purpose of throwing light upon this unusual phenomenon: "Topographical sections of the part made by Dr. Quincy showed that in forming these columns the disease had followed the hair follicles and sweat ducts. The sweat ducts could not be traced to the surface in these prolongations in all cases, but the hair follicles were almost invariably found. More minute examination of the intervening cutis showed the connective tissue fibres at many points to be indiscriminately mingled with small, round cells." Horizontal sections showed these columns to be cylindrical in shape, and not slits or clefts in the cutis occupied by the disease. At varying distances from the surface the masses of cells branched off horizontally, infiltrating the skin in different directions. This was readily seen both in horizontal and vertical sections.

At a meeting of the society held September 28, 1875, a description of the adjacent healthy skin was given,<sup>2</sup> the structure of which readily explained the peculiar disposition of the infiltrating cells. It was apparent to the naked eye that the subjacent adipose tissue penetrated the cutis vera for some distance, forming vertical parallel columns reaching nearly to the surface. Sections of this skin showed under the microscope the ap-

<sup>1</sup> Communicated to the Boston Society of the Medical Sciences.

<sup>2</sup> Report of the Proceedings of the Boston Society of Medical Sciences from September, 1875, to May, 1876. Reprinted from the *New York Medical Journal*.

pearances represented in Figure 1. From the adipose layer there arises at a slight angle from the perpendicular a long, slender column of adipose tissue (*d*), terminating directly beneath the root of a lanugo hair (*h*), which, as will be seen, penetrates but a short distance the thick layer of cutis. At about the centre of this canal—for the cylindrical-shaped cavity of the cutis which contains this column of fat is thus most appropriately named—the coil of a sudoriparous gland (*e*) may be seen. This gland is much more distinct in the section than in the drawing. In some instances the duct may also be seen extending to the apex of the canal, whence it may be traced to the side of the hair follicle, where it probably finds its way to the surface. (In dogs the sweat duct opens into the hair follicle itself at a short distance from its mouth.) The sudoriparous gland is suspended, as it were, in the soft adipose tissue by delicate bands of connective tissue which traverse the canal in a longitudinal direction. These bands of fibres were found in other sections to accompany a blood-vessel running in a very straight course from the adipose layer below to the base of the sweat gland, beyond which occasionally it might be traced. Around the base of the hair follicle is the sebaceous gland (*c*), from the open mouth of which the hair seems almost to spring. A short distance above the level of the sweat gland are two clefts in the cutis extending obliquely upwards from the canal. These clefts are quite constant (Figures 1 and 2), and may be found to contain a blood-vessel or a fragment of a sweat gland. It was evidently through these channels that the sarcoma cells spread in a horizontal direction. There were a few longer hairs, which passed through the entire thickness of the cutis, and in the neighborhood of these no such structures as we have described were found. The diseased tissue as it began to involve the skin advanced through natural channels which from their anatomical character would offer less resistance to elements penetrating from the subcutaneous tissue to the surface than the dense fibrous portions of the cutis vera.

Skin from various parts of the body and from individuals of various ages was examined to determine how constant a structure this was. A section of the skin of an infant, taken from the shoulder (Figure 2), shows well the relation of these fat canals to the hair follicles and erector pili muscles. We see, as before, the sweat glands which, we may say here, are always to be found in these canals, although they are also seen in the intervening structure of the cutis. The obliquity of the canal places it at a slight angle to the shaft of the hair, while its long axis is nearly parallel and continuous with that of the erector pili muscle, the lower border of which is as a general thing directly continuous with the adjacent border of the canal. The sebaceous gland (*c*) is seen between the muscle and hair follicle, the position usually ascribed to it. It will be observed that the hair curves to the side on which the muscle

is situated. This I have found to be constant and in accordance with the description of other writers. (Figures 2, 3, and 4.) Skin was examined from the back, chiefly near the median line, the shoulder, arm, breast, abdomen, and lower extremities. In all these specimens fat canals were found to exist and to bear the relation to the lanugo or downy hair which has been described. The length of these canals varied, of course, with the thickness of the skin. On the back, between the shoulders, they were most typically developed, and in individuals who were fat the breadth of the canal exceeded frequently that shown in Figure 1. The actual thickness of skin in Figure 1 at its narrowest part is 5.5 mm. The length of the fat canal is 4 mm. On the other hand, in lean individuals, where the tissue beneath the cutis was devoid of fat, no fat cells were found in the canals. A delicate connective-tissue network is there seen supporting blood-vessel and sweat gland. In thin skin the canals are either short or, if the hair is of sufficient length to extend to the bottom of the cutis, absent. A thick skin and the existence of downy hairs are, then, the conditions necessary for the presence of this structure in its most marked form. The frequency with which these canals occur depends upon the quantity of hair. In some sections of half an inch in length I have seen as many as five. In Figure 3 the canals are numerous, but no more so than is often found on the back, where they seem to exist in the greatest numbers. At other points long intervals occur where none are found. I did not find these canals in the skin of the face of a female, the cutis vera being thinner and less dense than in other specimens examined. In the lip of a rat, although the tissue in which the long hairs were embedded was quite transparent, vertical rows of fat cells, arranged like the beads of a rosary, were seen beneath the roots of many of the hairs.

It having been suggested that this was the route of the lymphatic vessels, a reference to Neumann's work on the lymphatics of the skin<sup>1</sup> showed that no such structure was alluded to. This author describes the lymphatic vessels as distributed through the skin in two horizontal layers, a superficial and a deep one, the vertical connection between the two being found only at comparatively rare intervals. The following experiments were made to determine the question of the presence of lymphatic vessels in these canals, and also to observe to what extent fluids and particles pressed up from below could be forced to the surface : —

Skin was taken from the body of an individual within twenty-four hours after death. A small amount of the loose areolar tissue was left adherent to its lower surface. The skin being prepared by warming for a few minutes in water of about 90° F., Berlin blue was injected by means of a subcutaneous syringe into the loose areolar tissue, which was rap-

<sup>1</sup> Zur Kenntniss der Lymphgefäße der Haut. Von Isidor Neumann.

idly distended by the fluid. The specimen was then thrown into strong alcohol. A similar fragment of skin was stretched like a drum over the end of a brass cylinder, to which it was firmly attached by an open brass cap and screws. The cylinder being held vertically, Berlin blue was poured upon the skin, the outer surface of which looked downwards; a rubber cork perforated by a glass tube was securely fastened to the top of the cylinder, and the tube was connected with an apparatus designed to exert any atmospheric pressure required. The pressure, sufficient to raise a column of mercury twenty-eight millimeters, was continued for an hour and a half, the skin being pressed out in dome-shape, at the bottom of the cylinder, with great force. The specimen was then placed in alcohol. It was observed that the injection mass had gone at one or two points to the surface, and on making vertical sections of the skin the next day the cutis was found to be penetrated by the mass in vertical blue lines, which united at various points by horizontal branches, occasionally so numerous as to present an almost continuous blue surface. The subcutaneous areolar tissue was uniformly colored blue. The first specimen showed on section the same vertical lines at one or two points, but the force of the injection had not been sufficient to carry the blue mass into all the canals. Thin sections placed under the microscope showed that the mass had passed into the canals already described. As the subject was lean and the fat absent, the route of the fluid could be studied with facility. The injection mass could be seen on entering the canal to follow the course of a blood-vessel (already described), at first surrounding and obscuring it, but as it failed in quantity to lie in patches on its surface. At no point could an injection of the vessel itself be discovered. It is probable, therefore, that the channels injected by this mass were lymphatic ("perivascular lymph spaces"), and that the two horizontal layers of lymphatics described by Neumann are brought into communication by these routes.

The special function of these canals is not evident. In addition to furnishing a route for the blood-vessels and lymphatics, there would seem to be some connection with the hair and its apparatus. The constant relation which they bear to this structure and the erector pili muscle would suggest a condition designed to facilitate the action of the muscle. According to Biesiadecki,<sup>1</sup> this muscle by its contraction raises the hair from the position which it occupies nearly horizontal to the surface to a more vertical one. That this must be the result of a contraction of this muscle is evident from a glance at Figures 2, 3, and 4. Any movement of the root of a lanugo hair would be well-nigh impossible, imbedded in the dense tissue of the cutis, were it not for a yielding structure like that of the canal, an elongation of which would greatly aid the contraction of the muscle. The presence of fat

<sup>1</sup> Stricker's *Handbuch der Lehre von den Geweben des Menschen und der Thiere*.

near the hair bulb is made possible by this structure, which may therefore have some bearing upon the nutrition of the hair.

The possibility of diseased products finding their way from below to the surface through these canals induced me to seek for other examples beside that already referred to.

Nævi, which are congenital and appear and spread on the surface of the skin soon after birth, are developed in the subcutaneous adipose tissue chiefly, which will always be found to be more extensively affected than the skin above. A rapidly spreading nævus on the shoulder of an infant was excised by Dr. George H. Gay, who kindly gave me the specimen to examine. A vertical section through the specimen showed the lobulated vascular tissue occupying the place of the adipose layer. At the point where the invasion of the skin began (Figure 4), elongated masses of the disease could be observed even with the naked eye, and easily with a lens, to extend nearly to the surface. These prolongations were vertical and parallel, and a higher power showed that they communicated freely with one another (*n*) by horizontal coils of the vascular tissue until the development of the disease reached a point where the cutis vera was no longer to be found. This method of invasion is shown in Figure 4, the cutis vera appearing where the disease is present as islets in the vascular tissue. The erector pili muscle (*b*) of one of the canals invaded is still seen, but has been unusually elongated, the development of the disease having raised the surface of the skin at this point above its natural level. The lobulated character of the vascular tissue peculiar to nævi is shown at the bottom of the drawing. The magnifying power is of course too low to show the vessels well, and no attempt has been made to draw them. Perhaps the most striking instance which can be offered of disease working to the surface is seen in carbuncle. In this affection the pus infiltrates the parts attacked, and does not collect within a circumscribed wall, as in abscess. Its situation on the back, where the canals are found to be larger than elsewhere, and its peculiar honey-combed character, suggested an invasion of the skin through these canals. An examination of the piece of skin removed from the border of a carbuncle confirmed this belief. The fat canals were found distended with small, round cells, which distended also the horizontal clefts of the cutis communicating with these canals. As the centre of the disease was approached, the cutis intervening between two of these canals was found much softened, and crumbled under the razor. The small, circular openings formed in the skin by the pus, an appearance so characteristic of carbuncle, were bounded by several columns of pus or wandering cells occupying the place of the now broken-down tissues of the canals, while the intervening cutis, occupying probably the district supplied with nutriment through these channels, had melted away. Vertical sections of skin still in a tolerable state of preservation presented the appear-

ance described already in the case of the round-cell sarcoma (Figure 3). Owing to their distention with pus or cheesy products the vertical columns are easily recognized.

Whether the so-called "core" of a boil may not be the necrosed fragment of cutis cut off from its blood supply by the obliteration of one or more of these canals by inflammatory products, I have had no opportunity yet to determine. Whether the situation of vesicles or papules in a cutaneous eruption correspond in any way to the distribution of these canals is also a subject for future inquiry.

In a case of melanotic sarcoma of the skin of the back, situated just beneath the corium, a number of sections were made to observe the progress of the disease downwards through the skin. Although the canals were numerous, the disease had hardly reached a sufficient depth to determine to what extent its further progress might have been modified by these structures. In those directly beneath the tumor a small, round-cell infiltration was observed in one or two instances. The more malignant form of cancer of the skin, of which cancer of the lip is the type, might be found to traverse these canals. In the lip and penis, however, the canals would not be found. When occurring on other parts of the skin, on the back of the hand, as it occasionally does, it might be studied to advantage.

In drawings of vertical sections of the skin irregularities of contour are sometimes to be seen at the line of junction of the adipose layer with the cutis vera, or irregularities in the arrangement of the fibres of the cutis, indicating that the section has been made near a canal. I have been unable, however, to find any description of these fat canals in modern text-books or recent periodical literature.

The drawings were made by Dr. H. P. Quincy from sections prepared by him. The experiments were performed in Professor Bowditch's laboratory.

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## A CASE OF HYDROPHOBIA.

BY SANDFORD HANSCOM, M. D., EAST SOMERVILLE.

ON the morning of the 20th of November a good-natured pet spaniel, which had never been known to snap at any one, suddenly and without any provocation sprang at his mistress. His master whipped him, and he was left in the cellar of the house until the time for his dinner. While eating it in the company of a pet cat, as he had been accustomed to, without ever having molested her, he suddenly seized the cat and threw her across the room. The owner reached out his hand to catch the dog, when the latter caught him tightly by the wrist and inflicted a deep wound, biting him three times; the skin became lacerated while making an effort to shake him off. It was supposed at

the time that the dog was irritable from the whipping which he had received in the morning, and as he expected another, for snapping at the cat, defended himself by biting. Half an hour after, the patient applied to me for treatment, and believing it to be too late for excision or cauterization to be effective, and as there was no history of hydrophobia, I dressed the wound with a solution of carbolic acid. It healed readily, and the patient attended to his business as usual in four or five days. Soon after the infliction of the bite the dog disappeared and he did not return for thirty-six hours; nothing could be ascertained of his whereabouts or of his behavior during that time. When he returned he was very much exhausted, and had the appearance of having been severely beaten. From what I can learn of those who saw him he gradually grew weaker, apparently losing the use of his legs, especially the hind ones, which he would drag after him. He died quietly, with his head in the lap of his mistress, without having had a convulsion, excessive flow of saliva, or tremors. On the 13th day of January (fifty-four days after the injury), the patient began to have shooting pains in the fore-arm, but not especially localized. They did not radiate from the cicatrix, and there was no change in the appearance of the latter. On the following day the pain had increased so much that he required one sixth of a grain of morphia to relieve him; it was given subcutaneously, and was repeated the next morning. After that there was very little pain in the arm, and no appreciable change in the pulse or temperature. He was despondent, and stated on the morning of the 15th that "he felt sick and used up all over;" he was obliged to go to bed in the afternoon, and then for the first time began to have some difficulty in swallowing. This symptom was not manifested by an attempt to drink water, but during an effort to swallow some herb tea that he was accustomed to take when ill, and which he believed would relieve his bad feelings. There was no trismus; he was quiet and inclined to doze. At five p. m. Dr. H. H. A. Beach saw the patient with me, and agreed that the history of the case in connection with the symptoms then existing indicated the probable development of hydrophobia, and an unfavorable prognosis was given to the patient's brother, who promised not to communicate it to the patient or his friends until the disease should be fully declared. His pulse at that time was 102, and the temperature in the axilla 102° F., face flushed, tongue coated. The cicatrix presented no unusual appearance, nor was it tender. A dark room was agreeable to him, but on raising the curtains the light did not disturb him in the least. He was perfectly rational and had some thirst, but no sore throat. He made an attempt to swallow a teaspoonful of milk, but was obliged to give it up from the moment that the fluid touched his lips. Immediately after this attempt unmistakable spasmodic contraction of muscles between the chin and sternum was observed. Mentally the patient

was perfectly clear and not disturbed by the unsuccessful attempt at swallowing fluids, but said he would try it again when he should be more thirsty. This symptom, excepting when he swallowed teaspoonful doses of medicine, continued until his death. He was obliged to relieve his thirst by sucking ice and snow through a napkin. The air from a fan or from adjusting the bed-clothing caused a shudder. Occasional sighing was noticed after the second day; it grew deeper and more frequent until the end. When disturbed from any cause his respiration was of a spasmodic character, so much so at times as to interfere with his speech.

On the following morning (the 16th) his pulse was 96, and mild delirium first developed; this also continued until his death. He was easily controlled throughout the disease. He became very suspicious of the people about him, believing that they were attempting to make him the victim of practical jokes, then of being poisoned. One hallucination was continuous from the time that the delirium first developed; he thought that some one had thrown a dirty powder on him, and he was continually making efforts to shake it off from himself and his clothing. He was also very cross and dictatorial, but showed no disposition to snap or bite.

Between four and five p. m. on the 18th he began to have spasmodic contraction of the muscles of the chest, larynx, and throat; some of them lasted nearly a minute, and prevented him from taking an inspiration. He also had a profuse discharge of saliva sufficient to wet his clothing through from his chin down to his hips. The spasmodic contractions concerned in respiration exhausted him rapidly, and he died quietly at 8.15, while sitting up in a chair. This position became necessary from the fact that he could not lie on his side, and if on his back the saliva accumulated so rapidly that it obstructed his respiration. For the last twenty minutes before his death there was no spasm. He lived five days after the first general symptom. At no time was he disturbed by the sound of ringing bells or running water. Morphia in one-fourth-grain doses, and chloral and bromide of potassium in fifteen-grain doses of each at the same time were given as needed. Anæsthetics were not required. At the solicitation of his friends he was allowed to take a pill, the prescription for which was said to be one hundred years old and to have cost originally five hundred pounds. It had the reputation of curing and preventing many cases of the disease. No change in his symptoms could be attributed to its action, nor could its composition be ascertained. It was given as a placebo, on the chances that a hysterical element existed in this case; that whatever offered encouragement to the patient without the possibility of injury in his hopeless condition was justifiable, but so far as the evidence furnished by one case is of value its inefficacy was demonstrated. The permis-



sion of the friends for an autopsy could not be obtained. The particular symptoms of the disease which were not observed in the dog when seen might have existed during the thirty-six hours that he was absent.<sup>1</sup>

The proximity of the wound to the ulnar nerve and its character (punctured and lacerated) suggested the consideration of tetanus as an explanation of the symptoms; the latter seemed to be fairly excluded, however, on the ground that delirium was continuous from the third day of the attack, and that at no time did trismus or any other form of tonic spasm exist; the profuse discharge of saliva was also corroborative of this view. The unquestionable existence of repeated attacks of laryngeal spasm; the fact that the symptoms developed after a considerable interval had elapsed from the date of the injury; that for three hours previous to his death, and after he became wholly unconscious, marked spasms of the chest and throat occurred at intervals of from three to five minutes; that death occurred as a result and within five days following the development of symptoms characteristic of the disease, reasonably offsets a theory that the hydrophobic symptoms were simulated by a hysterical man.<sup>2</sup>

<sup>1</sup> Mr. Youatt's description has been the one most uniformly accepted and quoted. He says: "The disease manifests itself under two forms: the *furious form*, characterized by augmented activity of the sensorial and locomotive systems, a disposition to bite, and a continual peculiar bark. The animal becomes altered in habits and disposition, has an inclination to lick or carry inedible substances, is restless, and snaps in the air, but is still obedient and attached. Soon there are loss of appetite and the presence of thirst, the mouth and tongue swollen; the eyes red, dull, and half-closed; the skin of the forehead wrinkled; the coat rough and staring; the gait unsteady and staggering; there is a periodic disposition to bite; the animal in approaching is often quiet and friendly, and then snaps; latterly, there is paralysis of the extremities; the breathing and deglutition become affected by spasms; the external surface irritable, and the sensorial functions increased in activity and perverted; convulsions may occur. These symptoms are paroxysmal, they remit and intermit, and are often excited by sight, hearing, and touch.

"The *sullen form* is characterized by shyness and depression, in which there is no disposition to bite and no fear of fluids. The dog appears to be unusually quiet, is melancholy and has depression of spirits; although he has no fear of water he does not drink; he makes no attempt to bite, and seems haggard and suspicious, avoiding society and refusing food. The breathing is labored, and the bark is harsh, rough, and altered in tone; the mouth is open from the dropping of the jaw; the tongue protrudes, and the saliva is constantly flowing. The breathing soon becomes more difficult and laborious; there are tremors, and vomiting, and convulsions."—(Holmes's Surgery, vol. i., page 685.)

<sup>2</sup> "As regards the diagnosis, there is no particular symptom which can be relied upon as forming a distinguishing mark of this disease; the symptoms must be taken collectively, and then there is no disease simulating it; thus the peculiar combination of disturbance of the muscles of the pharynx and larynx, the psychical hyperæsthesia and fear, the altered voice, the difficult breathing and swallowing, the perverted appetite, the hallucination, and the easily excited rage are for the most part the diagnostic signs. The dread of water, the almost characteristic symptom in man, is not always present, as may be proved in recorded cases. On the other hand, this symptom may be met with in other diseases; thus in hysteria we may have what is called hysterical hydrophobia, where the sight of water induces a paroxysm of hysteria, but this only lasts a short time."—(Holmes's Surgery, vol. i., page 691.)

## RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.

BY F. C. SHATTUCK, M. D.<sup>1</sup>

*Cheyne-Stokes Respiration.*<sup>2</sup> — In the case of M. Biot this type of respiration was well marked, and carefully observed for several weeks. The period of apnœa lasted on an average from seventeen to eighteen seconds, the period of dyspnœa from forty-two to forty-three seconds; the number of respirations during the period of dyspnœa was twenty-eight, the arrest of breathing always occurring in expiration.

The patient, aged fifty-seven, said he had never been sick before, and first noticed that he was not as well as usual fifteen days before entrance into the hospital. During the periods of apnœa he grew sleepy and somewhat cyanotic, both of which phenomena vanished during the period of dyspnœa; indeed, he begged earnestly for some remedy which would give him sleep. He had no headache, nor was any swelling to be seen about the neck which might suggest pressure on the pneumo-gastrics. The apex of the heart was outside of the nipple and apparently in the fifth intercostal space, though its exact situation was difficult to define. A double murmur was heard all over the heart, the point of greatest intensity being over the third right cartilage. The hammer-pulse was ill marked on account of considerable atheroma of the arteries; a double murmur was heard over the femoral arteries, and there was some pulsation of the jugulars. Aortic obstruction and regurgitation and slight mitral insufficiency were diagnosticated.

Pneumographic and sphygmographic tracings were taken repeatedly during the time the patient was under observation, and always with the same results. The periods of apnœa and dyspnœa were strongly contrasted in the tracings. The cardiac beats were uniformly more rapid during the former than during the latter period, — thirty-six in the eighteen seconds of apnœa, eighty-two in the forty-nine seconds of dyspnœa. The notch in the tracings, the presence of which is so characteristic of aortic regurgitation, was also more marked during the period of apnœa than during that of dyspnœa; that is to say, the arterial tension was diminished during apnœa.

The patient was rendered decidedly more comfortable by three doses of chloral hydrate of one gramme each during the afternoon. It was several times omitted, but resumed again at his urgent request. Once digitaline was substituted for it, but had no appreciable effect. While under the influence of chloral hydrate the duration of the periods of apnœa was reduced from seventeen or eighteen to ten or twelve seconds.

<sup>1</sup> We are greatly indebted to Dr. Shattuck for having kindly undertaken at short notice the Report which Dr. Knight was unavoidably prevented from writing. — *Eds.*

<sup>2</sup> Lyon Médicale, December, 1876; London Medical Record, February, 1877.

After four weeks' sojourn in the hospital the patient died, but unfortunately an examination was not permitted by the friends.

M. Biot advances no theory of his own to explain this form of respiration, but inclines rather to the theory of Traube than to that of Fihelne. The fact that in his case arterial tension was diminished during the period of apnœa, and the fact that chloral, which diminishes the excitability of the nervous centres, reduced the duration of the period of apnœa, are both considered by M. Biot opposed to the theory of Fihelne. (These and other theories which have been offered in explanation of this phenomenon are discussed in the number of this journal which appeared October 7, 1875.)

Dr. Andrew<sup>1</sup> reports a case of typhoid fever in the course of which this type of respiration was noted. The case was a pretty severe one, and on the twenty-second day of the fever, September 18th, on casual examination of the chest, dullness and bronchial respiration were found in the right lateral region. The next day but one it was noticed that the respiration was irregular and sometimes ceased entirely. The 21st, the respiration was still irregular, the patient passed his fæces in bed, and was in a condition of great prostration. The 22d, the prostration had rather increased, percussion was impaired at both apices, and bronchial râles were heard all over the chest; the respiration varied between 24 and 40. The heart sounds were very faint, the first almost inaudible. The 24th, Cheyne-Stokes breathing became fully developed, the period of dyspnœa lasting twenty-five seconds, that of apnœa ten seconds. Brandy was administered in large quantities, and the next day the action of the heart was stronger and the respiration regular, 36. From this time the patient improved slowly, and was sent, November 3d, to a convalescent home.

It will be seen that the form of respiration under consideration coincided in time with the period of greatest exhaustion; a period when the aërating surface of the lungs was much diminished and the action of the heart much enfeebled, from that condition of its muscular structure which is a concomitant of all the specific fevers to a greater or less degree, cloudy swelling. It will also be observed that the patient recovered.

*The Use of the Hypophosphites in Phthisis.* — Dr. Burney Yeo, in a paper read before the British Medical Association at the annual meeting in 1876,<sup>2</sup> sums up the results of his experience with these remedies, having administered them to nearly a thousand consumptives during the last five years.

In advanced phthisis, with both lungs involved, as well as in less advanced cases which run a rapid course and are attended with high fever,

<sup>1</sup> *Lancet*, March 17, 1877.

<sup>2</sup> *British Medical Journal*, February 10 and 17, 1877.

they have proved of no service. Their use was attended with more success in young persons than in older ones, and in fair persons of lymphatic temperament than in dark persons of sanguine or bilious temperament. They seem to be of most service in children laboring under all forms of chronic lung disease, and in young adults who tolerate the disease pretty well, and in whom it is limited to the upper portion of one lung. If benefit result it is almost immediate, as a rule, and is chiefly manifested by improvement in the general health and strength. The physical signs sometimes diminish, more often remain stationary, but may increase in extent simultaneously with marked improvement in the general condition. This improvement is often only temporary, and in consequence, it may be, of some imprudence on the part of the patient, the disease takes a fresh start, and further administration of the remedies is useless. Indeed, these cases usually run a very rapidly fatal course, and it is therefore suggested "that patients who are mending under the administration of these remedies should be protected with more than usual care against all those conditions which may possibly lead to a relapse."

*Expectoration in Phthisis.* — M. Daremberg has recently published a thesis on this subject, which has attracted some attention.<sup>1</sup> He thinks that while formerly too much attention was devoted to the sputum, it is now passed over too lightly. Chemical analysis of phthisical sputum has shown that it may contain chlorides and phosphates in almost as large amount as the urine, and, if profuse, that it may thus materially assist in lowering the condition of the patient. Albumen and fat are also important constituents of phthisical sputum. The sputum of chronic bronchitis, on the other hand, contains these products in much less degree, and while a patient suffering from chronic bronchitis loses by expectoration about two per cent. of the nitrogenous substances necessary to his existence, a patient suffering from phthisis loses nearly three times as much.

The diagnostic and prognostic value of the presence in the sputum of elastic fibres is also discussed. These, as is well known, are found only in phthisis, gangrene of the lung, and hæmorrhagic infarction. If the two latter be excluded, as is usually easily done by the absence of their other characteristic signs, phthisis alone remains. If in any individual case we find these fibres at a given time and then cease to find them, this fact will show that the malady has been arrested; if they reappear later we may affirm that a new portion of lung has become the seat of ulceration. It results from this that the absence of these fibres does not indicate the absence of cavities, but merely the absence of the ulcerative process at the time.

<sup>1</sup> Lyon Médicale, November 12, 1876; Journal de Médecine et de Chirurgie Pratique, December, 1876; London Medical Record, January, 1877.

It is of great importance to diminish expectoration in phthisical patients, as it is to them a double source of exhaustion by the abundance of organic and mineral substances which is expelled, and by the fatigue it occasions. M. Daremberg then speaks of the success which M. Bouchard has obtained in fulfilling this indication by the administration of creosote obtained from beech tar. It may be given in doses of from one to three grains, and its use has always been followed by success, sometimes complete, after a longer or shorter time. It may be readily distinguished from the creosote of coal tar by the use of collodion; fifteen parts of the coal-tar creosote and ten parts of collodion give a gelatinous mass, whilst beech-tar creosote mixes with the collodion and gives a clear solution.

*Dust Diseases of the Lungs.*—Several papers were read before the Medical Section at the last annual meeting of the British Medical Association which are interesting though they contain nothing absolutely new on this subject.

Dr. Hall<sup>1</sup> singles out the grinders from the various branches of the Sheffield trades, and divides them into wet, dry, and mixed, according as they use the dry stone, the wet stone, or both.

The dry grinders work in an atmosphere which is loaded with fine particles of stone and metal; and scissers-grinding, fork-grinding, and razor-grinding are the most fatal. The amount of dust in the work-room is greatly increased by replacing a stone which is worn out. A hole is drilled through the centre of the new stone, and it is then fixed on the axle and made to revolve slowly in the trough so that the steel will bite. The grinder then takes a bar of steel and pressing it against the edge of the stone works it down to a smooth and level surface; this process occupies about half an hour. In workshops not supplied with fans many grinders will not take the trouble to tie a handkerchief over the nose and mouth. The position of the men is also very constrained and favors pulmonary congestion: they sit on a low narrow bench, support their elbows on their knees, and when grinding very small articles keep the head over the stone.

The wet grinders, on the other hand, are not exposed particularly to dust, but work on the ground floor without coat, waistcoat, or neckerchief, and keep their shirts open at the neck even in the coldest weather. When perspiring freely they often go into the yard without putting on additional clothing, and are thus liable to become chilled and the subjects of acute and chronic diseases of the lungs, pleura, and heart, as well as of rheumatism.

Dr. Hall found the average age of all fork-grinders living in Sheffield, including boys, to be twenty-nine years; of razor-grinders, thirty-one;

<sup>1</sup> Remarks on the Effects of the Trades of Sheffield on the Workmen employed in them, with Special Reference to Inhaled Irritants. By John Charles Hall, M. D.

of scissors, edge-tool, and wool-shears grinders, thirty-two. Of fifty-four grinders dead from all causes, thirty-seven died of grinders' disease. In 1874, ninety-two grinders died, wet and dry; average age at death, forty-six years; in 1875, one hundred and eleven grinders died, wet and dry; average age at death forty-two to forty-five years.

By attention to three things Dr. Hall thinks that the occupation may be freed from the danger to life which it now involves: (1) special reference should be had to ventilation in the construction of buildings in which the occupation is carried on; (2) they should be supplied with proper fans; (3) mere boys should not be allowed to work at the trade.

Dr. Arlidge,<sup>1</sup> of Staffordshire, the great pottery district of England, calls attention to the frequency of bronchitis and phthisis among those engaged in the cruder processes of this manufacture. His statistics show that among the males of the population not engaged in making pottery the proportion of sufferers with bronchitis is eighteen per cent., that of potters a trifle more than thirty-six per cent.; and that with regard to phthisis the proportion among the former is thirteen per cent.; among the latter twenty per cent. He goes on to say that the male workers are exposed to the inhalation of dust from the clay in its manipulation, while the women are employed in the various branches of finishing, which offer no special source of disease other than lack of exercise and good ventilation. He finds that five male potters are the subjects of bronchitis or phthisis where one female potter is similarly affected.

Dr. Beveridge<sup>2</sup> of Aberdeen inquires into the reason for the fact that phthisis is on the increase among the granite-masons. They were formerly a very healthy set of men and are still fairly healthy, but there is no doubt that phthisis has increased among them while it has decreased among the rest of the population of those parts. After careful investigation he can attribute this increase only to a change in the class of men engaged in the trade. The best workmen have of late been attracted elsewhere — many of them to America — by the offer of higher wages, and their places have been supplied by young lads of inferior physique. The occupation, though a very dusty one, has the inestimable advantage of being carried on practically in the open air, though with shelter from wet and somewhat from wind.

*Two New Symptoms of Pleuritic Adhesions.* — Dr. Marten<sup>3</sup> reports his own case. He was laid up about a fortnight with left pleuro-pneumonia without effusion of serum. After this he improved gradually, and six weeks of mountain air restored him nearly to his former condi-

<sup>1</sup> Diseases incident to the Manufacture of Pottery. By John T. Arlidge, M. D.

<sup>2</sup> On the Occurrence of Phthisis among Granite-Masons. By R. Beveridge, M. D.

<sup>3</sup> Berliner Wochenschrift, July 24, 1876.

tion of health and strength. Two symptoms, however, attracted his attention and were quite obvious to his medical attendant and those about him; after persisting three months they are now gradually disappearing. He noticed that when the volume of his stomach underwent any change, as just before, during, or after a meal, the upper portion of the œsophagus was thrown into repeated spasmodic contractions which lasted some seconds, occasioned considerable discomfort, were visible to those about him, and during their continuance rendered either speaking or eating impossible. His explanation of this symptom is that rapid change in the size of the stomach stretched the pleuritic adhesions to the œsophagus and thus set up the contractions.

It is well known that coughing or sneezing often occasions pain for some time after all active signs of a pleuritic attack have disappeared; the pain is due to stretching of the recent adhesions and causes the subject of it to exert counter-pressure with the hand over the corresponding ribs.

The second symptom, though rather more marked than the first, is not so easily explained. If, in consequence of rest of body and mind, respiration had become superficial for a short time — as just before falling asleep in bed — a deep, jerky inspiration which could be felt, heard, and seen took place and was repeated several times at intervals of a few minutes. This never took place in the morning, but only under the above-named conditions and when lying on the left side. It was very like a one-sided yawn and might be due to the same cause; only, as the pretty extensive adhesions on the left side prevented complete expansion of the left thorax, this was probably compensated by a sudden and irresistible contraction of the diaphragm, which was assisted by a more powerful, visible, and audible expansion of the left hyphochondrium.

*(To be concluded.)*

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## PROCEEDINGS OF THE NEW ENGLAND PSYCHOLOGICAL SOCIETY.

BY DR. B. D. EASTMAN, SECRETARY.

THIS society met on March 13th, at Worcester, vice-president Bancroft, of Concord, in the chair, in the absence of the president, Dr. Tyler. Drs. Earle, of Northampton, Harlow, of Augusta, Draper, of Brattleborough, Stearns, of Hartford, Sawyer, of Providence, Brown, of Barre, Eastman, of Worcester, and Walker, Jelly, and Fisher, of Boston, were present.

At the afternoon session, DR. DRAPER read a paper on Classification of Mental Diseases, in which he advocated the use of Skae's system as a provisional one. He deprecated the partisan attack of Dr. Brown, of West Riding, since Skae regarded his system as purely tentative, being founded on ætiology

as the nearest approach possible to a pathological basis. Dr. Brown thinks we shall never discover the molecular changes peculiar to insanity; Dr. Clouston thinks we shall. Dr. Draper thought that a careful study of the specific relations between cause and effect, and a sagacious discernment of the pathogenetic causes in mental diseases, would lead to a better classification than any we now have. Of particular causes he gave the first place to heredity, which he thought might be sufficient to produce insanity without secondary causes.

DR. EARLE had concluded thirty years ago that no system could be a complete one until pathological conditions were better known, and that any system based on symptoms must be unsatisfactory.

DR. WALKER had found no resting-place yet. The only true system must be based on pathology, and until that is possible the simpler our classification the better.

DR. HARLOW formerly had a great regard for the names of diseases, but of late the nicer distinctions between the forms of insanity had somewhat faded. He had not found cases to correspond with the old names, and would favor a pathological classification if it could be well founded.

DR. FISHER considered Skae's classification handy and suggestive, but very imperfect. He had tried faithfully to apply it, with considerable success, and had recently examined it in the light of Ferrier's researches, and thought that the prominence Skae gives to insanity of somatic origin was borne out and explained by the supposed location of the instincts, appetites, and emotions in the posterior lobes. If these lobes are the common seat of organic sensations and their related emotions, we can understand why emotional disturbance so often proceeds from or is followed by disorders of the pelvic and abdominal viscera as well as of the heart and lungs. The old grand divisions of mania and melancholia, though often blending, were probably based on some anatomico-pathological distinction, and would never be superseded.

DR. STEARNS had used Skae's system, and found it of practical service. Dr. Clouston, its chief advocate, had told him that he was confident it could be perfected in time. Most of the Scotch alienists were hopeful of finding the true pathology of insanity. Dr. J. Batty Tuke said he could demonstrate microscopical changes in the brains of every insane person. Dr. Lindsay, however, claimed that he could show the same morbid appearances in the brains of paupers not insane. The pathologist at West Riding had made the same statement.

DR. EASTMAN remarked that the superintendent of a state institution with five or six hundred patients had no time for microscopy. He thought the gross morbid appearances in the brains of persons dying insane not very instructive. While agreeing with Dr. Draper's view, that heredity might be the sole cause of insanity, he considered the bad early training, vicious surroundings, and want of discipline in children of insane stock very efficient in developing insanity out of heredity, and knew three sons of an insane mother who became successively insane at the age of twenty-one, with no assignable cause but heredity.

DR. STEARNS thought some kind of impaired mental constitution inherited in all cases, even in those attributed to blows or sunstroke, else why did the same causes fail to produce insanity in the majority of cases?



DR. FISHER related a case of limited delusion of a week's duration resulting from heat stroke, where there was no traceable heredity and little or no emotional disturbance. The chief symptom was frontal headache or sense of tightness, lasting long after the mental symptoms had vanished. There seemed to be hyperæmia chiefly affecting the anterior lobes, this location being possibly due to a previous overstimulation of the centres in that region by too close attention to accounts.

DR. BANCROFT spoke of classification as a language by which alienists could better understand each other. Our language must be imperfect till our knowledge is perfected. He believed that insanity did begin *de novo*.

DR. EARLE mentioned as an example of heredity eighteen cases of color blindness in the descendants of three persons of one family who had this defect three generations ago.

DR. WALKER knew of epilepsy occurring in the youngest child only, in four cases, in different branches of the same family.

At the evening session the subject for discussion was Restraint. The members had all at the last meeting expressed their adherence to the American doctrine that a certain amount of mechanical restraint was at present necessary, but that it should be reduced to the minimum.

DR. FISHER read from the last number of Maudsley's *Journal of Mental Science* the following: "It is every year becoming a graver and more important question whether the determined set against restraint, which has obtained for so long, has not been in itself a mistake. It is certain that there is a disposition on the part of some to break down the hard and fast lines which have hitherto been followed, and to judge every case on its own merits." This is exactly the American theory, and though he had seen this and other signs of a modification of opinion in England, he hoped the reaction would not go too far.

DR. WALKER did not think the time would ever come when restraint could be wholly dispensed with. He felt that some English superintendents had been uncharitable in their judgment of those in this country who honestly differed from them. He knew that in 1872 many English superintendents strongly deprecated the popular pressure in favor of absolute non-restraint, and felt that their patients suffered in consequence.

DR. EARLE said that there was now twice the normal proportion of restraint in our state hospitals in consequence of their crowded condition. Dr. Bucknill gave an impression in his letters of a unanimity of opinion in England in favor of non-restraint which was contradicted by facts within his personal knowledge.

DR. STEARNS had been able to discontinue mechanical restraint for several months, but should not hesitate to employ it if a case arose in which it was needed. He appreciated the impracticability of dispensing with it in crowded institutions where no control could be exercised over admissions.

DR. SAWYER had reduced the employment of restraint to a very small percentage. He had lately seen in consultation two cases in which, to avoid restraint, sedatives had been used to a degree deserving the appellation of malpractice.

DR. DRAPER used as little restraint as possible, but was unable to entirely dispense with it.

DR. BROWN found it occasionally necessary, especially in epileptic furor.

DR. BANCROFT thought it should be prescribed by each superintendent upon a study of the individual case, just as any medical or remedial agent should be. It should be used when needed, and avoided when not demanded by the circumstances of the case.

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### CIVIL MALPRACTICE.<sup>1</sup>

It may be truly said that when a youth begins the study of medicine and surgery as a profession, interest in the scientific portion of his curriculum predominates over other views, and that after he engages in practice humanity is the prevailing instinct. In our calling, science and life-long devotion to relieving human suffering are, and should be, our cardinal ideas. But unfortunately, as time goes on, the young enthusiast has his ardor dampened, his interest cooled, his humanity chilled by the hardness of the material with which he comes in contact. Selfishness, want of confidence, ingratitude in others weaken his trust in all mankind and undermine his youthful fervor. Worse than this, he is gradually brought to regard a certain class of his patients as seeking to enrich themselves at his expense, and watching for a chance to blackmail him. He is then forced to learn to be reserved, to be guarded in prognosis, and to protect himself. We can safely appeal to the experience of any physician of twenty years' practice whether this picture is too darkly drawn for truth.

Melancholy instances of baseless accusations and wearisome anxiety can be readily found in the lives of the recent dead and of living physicians in this community. Not only the open hostility of irregular practitioners, but the secret enmity of professional brethren occasionally is the promoter of accusations and of suits.

Very naturally the surgeon, dealing with external pathology, which is the most tangible to the laity, is most frequently accused of malpractice. Surgical suits comprise the bulk of the volume which is the text of this review, but Dr. McClelland's treatise also touches on ophthalmic, obstetric, and medical malpractice.

One suit breeds another. During the past two years, in this city, damages, small in amount it is true, were adjudged to a plaintiff suing her physician for rupture of the perinæum during labor. Since that most unfortunate judgment, two other suits for like cause have been brought to trial. The judgment alluded to we regard as more disastrous to the community than to the accoucheur, since were so common an accident as ruptured perinæum to be a frequent cause for claiming damages, the public would be eventually deprived of the services of all competent physicians, who would be as justly timid of engaging in obstetric practice as many general practitioners now are of treating a fracture.

<sup>1</sup> *Civil Malpractice: A Treatise on Surgical Jurisprudence, with Chapters on Skill in Diagnosis and Treatment, Prognosis in Fractures, and on Negligence.* By MILO A. MCCLELLAND, M. D. New York: Published by Hurd and Houghton. Boston: H. O. Houghton and Co. 1877. 8vo, pp. 554.

It is also noteworthy that quacks and pretenders are rarely sued. The most arrogant assumption, unblushing ignorance, and gross maltreatment frequently escape detection or punishment by the public. It is oftener the modest and conscientious physician, lacking in assertion if not in self-reliance, who is made the victim of a lawsuit.

Gratuitous service is no defense in a suit for malpractice. The doctor may give his best labor and time to the sick pauper, and be subsequently exposed to the expense of defending himself in a suit. Is there any other calling subjected to a like risk without a previous pecuniary contract? We think not.

Again, even if the unfortunate physician or surgeon gain his case and have a triumphant defense, he does not come out of the trial whole in pocket. A verdict for the defendant throws the costs of court on the defeated plaintiff, but that does not pay the doctor's counsel fees. Obligated to employ a competent lawyer, he is also obliged to pay him. A young physician may thus lose from three hundred to five hundred dollars in clearing himself from an unjust accusation, and he has no redress.

How frequently this is the case in England we see by the subscriptions raised in the *London Lancet* and elsewhere to indemnify a brother physician for such losses. These subscriptions come out of the pockets of his sympathizing medical brethren. A surplus of cheap and briefless lawyers fosters the spirit of litigation, which is too common among certain classes of all large cities. Lawsuits are begun on shares between counsel and plaintiff, and the unfortunate physician, if he have any worldly substance, is fair game. We may congratulate ourselves, however, that in a recent baseless suit for damages against a well-known surgeon in New York, the plaintiff was afterwards sued for the defendant's costs, and that a bill is now before the New York legislature requiring the plaintiff to give security before entering his suit that he will pay all costs if defeated.

Such a law would be a wholesome and equitable statute in Massachusetts, also, could it be enacted. We may well commend the following sentence from a charge by Judge Thayer, of Philadelphia:<sup>1</sup>—

“If you come to the conclusion that the plaintiff's complaint is altogether unfounded, then it concerns not only the interests of the parties in the present cause, and not only the interests of public justice, but also the established medical fame of this city, that you put an end, so far as you can, to experiments by unjustifiable lawsuits against skillful, attentive, and humane physicians.”

The law, as we learn from numerous decisions in the work before us, does not distinguish between the various “schools” (so styled) of medicine. All are alike responsible; but responsible for their own methods of practice only. Thus the botanic physician can be held responsible for care and skill in the use and knowledge of his “school” of practice only, and so on.

The decision on page 282, however, gives so succinct a definition of the term “regular” physician that we are tempted to quote it entire:—

“A ‘regular’ physician is one who has made anatomy, physiology, and hygiene the foundation upon which to build, by the exercise of common sense (and the more of this latter the more skillful the physician), an enlightened

<sup>1</sup> Vide page 301.

and rational practice, selecting, from the whole realm of nature, animal, vegetable, and mineral remedies which have been found beneficial in the treatment of disease, repudiating the term 'allopathic' as being false in theory and false in application. The practice of these doctrines is 'legitimate medicine,' handed down from the times of Hippocrates," etc.

On a thorough revision of Dr. McClelland's book, we are led to take a more encouraging view of the subject of malpractice suits than we have done in the pages just written. The charges of the judges are eminently fair and just, and contain many valuable precepts, such as : "It is a rule in law that a physician never insures a result," and many others. Although juries too frequently side with the plaintiff, yet we find that the majority of the suits for malpractice in the book before us were won by the physician. Nothing can be fairer than the judges' charges, rulings, and decisions as to the exact degree of the physician's responsibility.

Suits generally allege that the physician or surgeon was unskillful or negligent, ignorant or careless. Just how much lack of skill or care is requisite to convict the defendant is very carefully defined.

"Reasonable" care, "reasonable" skill, "ordinary" care, "ordinary" skill are all that can be claimed of the medical attendant. The country surgeon, according to these rulings, cannot be held accountable for the want of a skill equal to that of a hospital surgeon. He must be judged by the level of his associate surgeons or physicians in his community. The average knowledge of his associates, the average training and education of his associates, if coupled with reasonable care, honest intent, and no *neglect*, are all that he is liable for. And as to neglect, he can be held liable only for gross neglect, *crassa negligentia*.

The average of education, too, is all that is required. "Not the skill exercised by the *thoroughly* educated (surgeon), nor yet that exercised by the *moderately* educated, nor merely the *well* educated, but the *average* of the thorough, the well, the moderate," etc.<sup>1</sup>

Again : "The question was not whether the doctor had brought to the case skill enough to make the leg as straight and long as the other, but *whether he had employed such reasonable skill and diligence as are ordinarily exercised in his profession.*"

Tried by that test few regular physicians would be found wanting, if juries always agreed with the judge, and were not biased by their sympathy for the plaintiff.

As might be expected, most lawsuits in surgery are based on the treatment of fractures and dislocations ; in injuries of the shoulder, on unreduced dislocations or loss of power in the deltoid muscle, from injury to the circumflex nerve ; in the elbow, on fractures with resulting ankylosis ; in the wrist, on the deformity and stiffness often resulting from Colles's fracture ; and so on in injuries of the lower extremity. In this treatise are also ably reviewed suits for "venesection, for opening an abscess, for gangrene from frost-bite, for using a bougie, for vaccination, for felons, for conveying erysipelas." Valuable chapters are those on diagnosis and prognosis : the latter based on the results in fractures given by the extensive tables of Hamilton and Sayre.

While we are sorry to recognize the necessity, or *raison d'être*, of a book on suits for malpractice, yet we cannot but conclude that Dr. McClelland's treatise will be of great value and of great comfort to the busy and anxious surgeon. The work is well done. It is quite complete to date. It is encouraging in its tone and in its results. We feel that we can safely commend it to the profession as the best of its kind in this country. D. W. C.

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### SANITATION IN GEORGIA.

THE State Board of Health of Georgia was established by act of legislature in 1875, when also quite a stringent law was passed, providing for full and systematic registration of births, marriages, and deaths, and making the ordinaries (county officers) registrars of vital statistics. No provision was made for any remuneration for this work; and penalties were imposed upon parents and families in case of failure to report the facts required of them. The law proved inoperative and was repealed the next year, striking out the penalty clauses, and giving to the ordinaries five cents for each birth or death reported. Each county, too, was required to create a board of health, of which the ordinary should be secretary, and upon which there must be also two practicing physicians; they were directed to report to the State Board of Health at least once a year, but no provision was made, or is yet made, for their remuneration. Consequently only eighty-five counties out of one hundred and thirty-seven made returns — and even these were quite unsatisfactory — for the year 1876. The vital statistics, therefore, of this State of nearly two million inhabitants are of comparatively little value. Only twenty-five counties established boards of health.

With such difficulties before them, with an inefficient law and an inadequate appropriation, with little power, and even in some cases in face of an unwillingness on the part of the medical profession heartily to coöperate with them, the state board have done their work thus far in a manner to justify the high expectations of the people of Georgia. Their plans for the future are well laid out in the communications to the legislature by President Thomas and Secretary Taliaferro. It is to be hoped that means will not be wanting for their fulfillment.

The greater part of the report is devoted to a consideration of the yellow-fever epidemic, a careful investigation of which was undertaken at the suggestion of the governor of the State. The board were divided into two committees, one to sit in Savannah and the other in Brunswick, where they made careful and painstaking researches, abandoning their private business and defraying the expenses of the inquiry out of their private means.

The general health of the State was good until the appearance of the epidemic, the general history of which is given as follows: but first it should be said that the information was obtained from the letters and testimony of physicians and of the Savannah Benevolent Association. Neither the State nor the city took proper and adequate measures minutely to investigate the causes

etc., of the epidemic, which, of course, would involve the expenditure of a considerable sum of money.

The first death from yellow fever occurred in Savannah, July 30th, and from that day to the 15th of November 838 interments were certified as from yellow fever, and a certain number escaped registration. Of all the deaths from that cause the percentage to the population was 9.44 among the whites and 1.06 of the colored race. The population of the city during October was 7353 whites and 11,614 colored, showing that about twelve thousand persons, largely of course of the better classes, had left the city. Dr. Duncan's mortuary statistics show that there are always many deaths from miasmatic diseases in Savannah, and it is interesting to compare the records of the last seven years:—

In 1870	of a total of	1015	deaths there were	248	from the miasmatic diseases.
In 1871	" " "	1033	" " "	235	" " "
In 1872	" " "	1165	" " "	288	" " "
In 1873	" " "	1290	" " "	271	" " "
In 1874	" " "	1036	" " "	192	" " "
In 1875	" " "	887	" " "	162	" " "
In 1876	" " "	2249	" " "	1292	" " "

The mortality for 1876 was therefore about seventy per thousand of the total population of Savannah, or about eleven per cent. of those who remained in the city, and only a little less than in Buenos Ayres during the severe epidemic of 1871.

The importation hypothesis of the disease is rejected by a large proportion of the medical men in Savannah, and that of the local origin is warmly maintained; but the Board of Health show that "although it cannot be proved that any cases of yellow fever were carried into the city of Savannah by vessels from Cuba, while it cannot be proved that any of the early cases in the epidemic had personal contact with such vessels, still the fact remains that no cases of the disease occurred at Savannah until after the arrival of vessels open to suspicion of infection; that the outbreak of the disease did not occur at a point far removed from these vessels, but it did occur in the nearest inhabited block of the city to the wharf at which said vessels lay; and further that the first two cases of the disease had been in the immediate vicinity of the suspected vessels."

Given, however, the first case, imported or not, there are in Savannah most of the conditions needed to assure a severe epidemic of any one of the "filth diseases" which should once get a secure foothold, namely, a wet, alluvial soil surrounding the city, although itself situated on a bluff, reeking cess-pools, bad sewerage, filth-sodden yards, streets, and probably cellars, wells almost certainly contaminated, and a public water supply actually defiled to some extent—very much more so than Lake Cochituate—by human filth.

The severe epidemic in Brunswick, a small town of four thousand inhabitants, situated on the alluvial deposit at the confluence of two rivers, was, by common consent, due to a few cases imported in some Spanish vessels. A certain number of deaths occurred in Macon, Augusta, and a few other places, directly traceable to refugees from Savannah and Brunswick, and thought to be fairly attributable, in the two cities above named, to infected railroad cars; the disease extended and became epidemic there only on low soil, the high land escaping almost entirely.

It is generally agreed now among writers on yellow fever that the disease originated and was for some time confined to the borders of the Gulf of Mexico and to the Greater Antilles; whether it was conveyed thence to Cuba and the western coast of Africa, or whether it is of spontaneous origin in those places, even so high an authority as Hirsch is in doubt. The disease has been transported to various parts of both American continents, as is shown by the valuable table of prevalence compiled by Dr. McClellan and published with this report. In 1850 cases occurred on the eastern coasts, starting from New Orleans in 1849, over a range of about eighty degrees of latitude. It is interesting to note that it was almost unknown on the western coast until after free communication had been established by the Panama railroad. Yellow fever has been conveyed to Europe quite often, the last severe epidemic having been at Barcelona; but the careful quarantine, established first by the French government, has rendered any future outbreaks scarcely to be feared.

Generally speaking, yellow fever becomes very fatal only on moist, alluvial, littoral soil, especially if charged with decomposing organic matter, and apparently, by preference, along the sea or gulf coasts. Cold weather, to the degree of "black frosts," always puts a stop to the disease, but does not of necessity destroy the *contagium vivum* (allowing, for convenience of argument, that there is such a thing) unless prolonged, for vessels once thoroughly infected and afterwards rendered free from cases of the disease by removal to cold latitudes have been known to develop fresh cases without renewal of exposure upon their return to hot climates. Like the *keim* of cholera, which Pettenkofer thinks may retain its power to communicate that disease at least six months, and which Netten Radcliffe has shown may have kept alive a constant prevalence of cholera since the first great European outbreak nearly half a century ago, without supposing any fresh autochthonous cases, the specific poison of yellow fever will probably be shown to have been kept in a state of potential activity for at least as far back as we have any authentic history of the disease; and it can hardly be necessary, if indeed it is supported by carefully observed facts, to suppose any purely local origin for any particular epidemic.

Quarantine laws are inadequate and insufficiently enforced in Georgia, conditions inviting disease prevail in most of the cities of that State, and there is the telluric and meteorological influence always at hand in the river valleys and along the coast which makes some form of miasmatic disease prevail at that season of the year. Sanitarians generally will approve the following statement of the Board of Health in their Conclusions and Preventive Measures, "That yellow fever can be imported, and will and can become epidemic from the neglect of proper sanitary regulations, will not be questioned. That it may be imported and not become epidemic in the absence of the circumstances which favor its propagation will also be admitted without discussion." They recommend drainage of the marshes adjacent to Savannah, improvement of the sewerage, a pure water supply, and efficient quarantine, all of which the city now sadly needs.

We should hardly point to Philadelphia as a city of remarkably good sanitary police, but thus much has been accomplished there, — and Savannah

might do the same, — that yellow fever is scarcely feared now, although there are persons living who have abandoned the city three times in the early part of this century to escape the pestilence. That the Georgia State Board of Health is leading the public and the profession of their State in the right direction to accomplish so desirable a result is manifest to any one who will well spend a few hours in reading their report.

The remaining papers, on Food, by Dr. Cooper, and on Lunacy, by Judge Bigham, must be passed over very briefly. As in the immense majority of our States, the condition of a very large proportion of the insane in Georgia is pitiable in the extreme, while the wealthier communities of our country are wasting large sums of money to build hospitals of a questionable architectural magnificence for a favored few, at the same time dooming many of the others to the squalor and harshness of poor-houses, or to hopeless incurability from being kept in poorly provided homes, to the neglect of early treatment, entirely overlooking the important matters of facilities for the education of physicians and the training of nurses and attendants, and of the best modern appliances for medical treatment. Of the eighteen hundred insane in Georgia, about one third are in a single, overcrowded hospital. For the credit of the State it is just as well not to say where the rest are; but none of our houses are free enough from glass to make it safe for us to indulge in much throwing of stones.

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#### MEDICAL NOTES.

— We take pleasure in calling attention, from time to time, to the undiminished interest taken in the Boston Medical Library, as made evident by the gifts which it receives. Dr. Edward Reynolds has made over the whole of his valuable library of three hundred and twenty standard works, all in perfect condition and handsomely bound. From Dr. Edward Jarvis, of Dorchester, sixty volumes have been recently received, in addition to one hundred and fifty volumes previously given. Dr. Algernon Coolidge has given over one hundred volumes of the most recent French and German works upon anatomy and physiology, a class of books heretofore much needed in the library. A donation of three hundred dollars has just been made by Donald Kennedy, Esq., of Roxbury, a very timely and much appreciated aid in the present circumstances of the young association. Dr. Edward Wigglesworth has given eighty dollars for binding.

— It having been reported that the chair left vacant by the death of Sir William Fergusson had been offered to Mr. Lister, the students of Edinburgh presented a memorial to their distinguished teacher, begging him not to desert them. Mr. Lister in his reply, informing them that the position had not been offered to him, took occasion to imply that he should not be likely to accept it even if he had the opportunity to do so. His criticisms on the teaching of clinical surgery in London, which he designated as “a mere sham,” have given great offense to London surgeons. *The Lancet*, in alluding to this circumstance, makes the following withering remark: “In many quarters Mr. Lister has acquired the reputation of a thoughtful, painstaking surgeon, and has done



some service to practical surgery by insisting on the importance of cleanliness in the treatment of wounds, although this been done by the glorification of an idea which is neither original nor universally accepted." We do not think this is the opinion of surgeons in other countries than England. There can be no doubt that Lister will be considered in history as one of the most eminent surgeons of his day. Whether the officers of King's College will best consult their own interests by electing him or one of their surgical staff to fill the present vacancy is for them alone to determine.

— In a paper recently published in *L'Union Médicale*, Dr. Dujardin-Branmetz claims that the treatment of typhoid fever by the method of Brand — that of cold baths — does not give any more satisfactory results than that by the ordinary methods, while at the same time it is cruel and painful. He moreover advocates the use of tepid baths in typhoid fever on the ground that they lower the temperature and pulse, and thus possess the same advantages as the cold baths, without the inconveniences and dangers of the latter. M. Féréol, however, in a recent discussion, said that he had not found the effect of tepid bathing beneficial, the reduction of temperature being inconsiderable.

— *The American Journal of Pharmacy* states that from the library of Sardapalus, King of Assyria (found by Layard at Nineveh), it is proved that the Assyrians, some three thousand years ago, had a system of weights and measures almost as philosophical and methodical as the French metrical system, all the units of surface, volume, and weight being derived from a single linear unit. The base of the system was the cubit or elbow (equal to 20.67 of our inches). These cubits, multiplied with three hundred and sixty, gave the stadium, measure for great distances. The fundamental unit of surface was the square foot (foot equal to three fifths of the cubit). The cubic foot constituted the metreta (bushel), which, with its subdivisions, was the standard of all measures of capacity. A metreta of water was the talent, the unit of all measures of weight. The sixtieth part of the metreta gave the mine, and this divided into sixty parts, the drachm. The weight of the metreta (or bushel, water) was about seventy avoirdupois pounds, the mine about 18.7 ounces, and the drachm about one hundred and fifty-nine grains. The sexagesimal system appears to have been used in all these calculations, and is evidently a very practical one, combining the advantages of the decimal and the duodecimal systems.

— Dr. Müller-Warneke, assistant physician in the medical clinic of Professor Bartels in Kiel, gives in recent numbers of the *Berliner klinische Wochenschrift* a detailed account of two cases of chronic diabetes mellitus treated with salicylate of soda. Different methods of treatment had been carried out before in these cases without success. The following conclusions are arrived at by the author in regard to the drug: (1.) Salicylate of soda can completely remove the symptoms of diabetes mellitus, yet its action does not appear to be lasting in many cases. (2.) The symptoms of diabetes are made to disappear the quicker by salicylate of soda the greater the dose in which it is used and the longer it is borne by the patient. (3.) The first action of medium daily doses, nine to ten grammes, on diabetics appears gradually to abate, while large doses, fourteen to sixteen grammes in a day, act on patients progressively.

(4.) Salicylate of soda can be borne in chronic diabetes in large daily doses for a long time without special disturbance of the general condition. If symptoms of poisoning occur, they rapidly and completely disappear after a short omission of the drug. (5.) Salicylate of soda in chronic diabetes, even on long-continued exhibition, appears to possess only a slight irritating action on the kidney.

— In 1875 the horse-butcheries of Paris furnished for public consumption 6865 horses, asses, and mules; in 1876 they furnished 9271, giving 1,685,470 kilogrammes of net meat. At Lyons the number has diminished from 1262 in 1875 to 1088 in 1876. On the 1st of January there were fifty-eight butcheries in Paris and only seven in Lyons. At its meeting January 9th the committee *de la viande de cheval* decreed a silver medal to M. Chambéry, who opened the first horse-butchery in Lyons in 1867, and a gold medal to M. Tétard, who has nine butcheries in Paris. Moreover, the lovers of horse flesh wish the English to practice its consumption, and M. Decroix, the founder of this committee, has placed at its disposal the sum of eleven hundred francs to encourage the person who shall open and operate the first horse-butchery in London.

— A recent number of the *Medical Times and Gazette* has the following summary by M. Vibert of his own observations on the advantages of the preliminary injection of morphia in thoracentesis, or in any operation which may give rise to syncope. (1.) It very much mitigates the suffering inherent to the operation. (2.) It protects those operated upon from syncope and its redoubtable consequences. (3.) It obtains for them a sense of comfort, which is produced as soon as the operation is finished, which persists for many hours, and which may be prolonged by additional injections.

— Drs. James R. Chadwick, William T. Lusk, William Goodell, and Horatio R. Storer have been recently elected corresponding fellows of the Obstetrical Society of London.

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## BOSTON CITY HOSPITAL.

MEDICAL CASES OF DR. G. H. LYMAN.

*Complete Rupture of Perinæum relieved by Operation.* — Mrs. J. T., aged thirty, was admitted to hospital November 20, 1876. Has had six children; never miscarried. States that at birth of her last child, fifteen months ago, the head being born before the arrival of her physician, a female friend dragged the child forcibly through, tearing her very badly, and that she has never been able to retain feces or flatus since. Examination reveals the vagina and rectum in one large cloaca. The recto-vaginal septum in addition to the transverse separation is also lacerated longitudinally backward on the left side for an inch. Her condition has been disgusting to herself and all about her, as she is unable to walk across her room without the escape of offensive discharges. Has now superadded an acute attack of dysentery for which she entered hospital. For four weeks the dejections were very frequent and ten days since the disease developed fully, with chill, fever, vomiting, and severe tenesmus. She is now much prostrated.

December 12th. The dysentery being relieved, Emmett's modification of Sims's operation for restoration of the perinæum was performed by Dr. Lyman.

January 6th. A week after the operation large masses of scybala descended, filling the rectum and requiring removal by scoop. The reunited sphincter, however, still remained intact, controlling the evacuations. A small button-hole fistula remained in the recto-vaginal septum allowing passage to a small quantity of the more liquid feces; the anterior portion of the perinæum had given way.

January 8th. The recto-vaginal fistula was closed by sutures, and on the 17th was found to be firmly united.

January 29th. The rent in the anterior portion of the perinæum was again denuded and brought together by deep silver sutures, but though the union was apparently good for several days after the removal of the sutures, it gave way again to some extent in consequence of bad management on the part of the patient during the passage of large scybala, but without injury to the recto-vaginal septum or sphincter, which remained firm. She was advised to go home and wait a while before farther interference for the diminution of the vulvar orifice.

March 21st. Mrs. T. presented herself for examination, in fine health and spirits, declaring herself to be perfectly well. She retains perfect control of the sphincter, and is able to move about and do her own work as well as ever. There is a slight prolapse of the septum, but the uterus is well up in place and she declines any further operation.

*Acute Endocarditis in Rheumatic Fever.* — E. C., age twenty-two, unmarried, admitted November 20, 1876. Reports that she had always been in good health. Catamenia at thirteen, continuing normal since.

Four days before admission she had a chill followed directly by fever and vomiting, and two days later by slight attacks of epistaxis recurring at intervals for twenty-four hours. Tongue creamy, bowels in good order, sleep poor. Pulse 120; temperature 103.8° Fahrenheit.

November 22d. Rheumatic fever well developed. Pain and swelling in wrists, knees, and elbows, with acid perspiration. The joints were wrapped in cotton and she was ordered ten grains of salicylic acid every hour.

November 24th. For past twenty-four hours has had some deafness and disturbance of vision, nausea and vomiting, with burning sensations in stomach. Vomited some blood. Is very restless and has profuse perspiration. Pulse 144; temperature 100.4°. Acid not wholly omitted, but reduced to one dose every three hours if it did not cause vomiting.

November 25th. House physician called in the night; found her with tumultuous action of the heart, dilated pupils, face and extremities cold and covered with clammy perspiration; slightly delirious, sometimes stupid, and not easily aroused; pulse 160, temperature 100.5°, respiration 40. Sinapisms, stimulating enemata, and whisky energetically used caused relief in an hour. At the morning visit she said that during the night attack she had pain in the left lumbar region and was deaf. Still slightly delirious and with pupils enlarged. Two endocardial murmurs were now detected. Pulse 108; temperature 100°. Pulse weak and jerky; rhythm perfect. Six leeches were

applied to cardiac region. Was ordered a dose of calomel with opium, to be followed in a few hours by a saline. She was also ordered aconite, digitalis, and chloric ether, every three hours.

November 26th. Much improved. Heart more quiet and the murmurs less intense. Pulse 100; temperature 99.8°.

November 27th. The diastolic souffle is harsh and rasping, and is heard from the apex to the top of the sternum. Complains of prostration and severe pain in knees. Pulse 84; temperature 98.4°.

November 29th. The diastolic murmur is less intense, and is most marked over fourth rib. Pulse 100; temperature 102°. Digitalis reduced from fifteen minims to ten minims, and the patient is to have two grains of quinine three times a day, with sufficient Dover's powder to mitigate the pain in the joints.

November 30th. Pulse 72; temperature 102°. Silibant râles are found over both fronts. The diastolic murmur, now faintly heard at apex, increases in intensity in a semicircular line upwards, touching the sternum at the fourth interspace and reaching its maximum at the second rib, where it is very loud and marked. She is much prostrated.

December 1st. Pulse 60; temperature 100.4°. The systolic murmur is now as well developed as the diastolic and in the same course. Chest covered with sudamina, perspiration free, and the articular pains still severe. Stimulants *pro re nata*. Digitalis omitted.

December 5th. The prostration requires large amounts of stimulants. Patient has a bed sore and slight diarrhœa.

December 6th. Some increased dullness about second rib as if from pericardial effusion. To the other two is now added a well-marked presystolic murmur, increasing in intensity from the third rib upwards, inaudible at apex.

December 9th. Respiration somewhat embarrassed. The dullness on percussion still continues in the same locality. Respiration 60; temperature 100.4°; pulse 60.

December 10th. At the third rib, near the sternum, a decided thrill is imparted to the finger and traced very perceptibly into the carotids.

December 11th. Patient complains of increased cardiac pain and distress. The presystolic murmur is now distinctly audible at the apex; no change in the others. Mucous râles over both fronts and as far back as can be heard without raising the patient; probably due to œdema. Pulse 56; temperature 98.4°.

December 12th. Heart's action more steady and less intense. The presystolic murmur has disappeared.

December 15th. All the symptoms rapidly improving. Systolic murmur hardly audible at apex, still intense from third rib and sternum upwards to the left. Pulmonary irritation nearly gone. Carotid pulsations quite distinct, with a marked thrill in the second interspace, two inches to the left of sternum.

December 17th. With the subsidence of the cardiac symptoms, the articular pains have returned with fever and restlessness. Salicylic acid was again carefully tried, but caused nausea and distress, and opiates gave no relief until compresses were applied and bandaged from the toes to the knees.

December 18th. The salicylic acid was again tried, but could not be borne; perspiration profuse. Quinine, omitted for some days, again resumed.

December 19th. Pain relieved.

December 23d. No return of pain. Systolic murmur diminishing, but the rhythm and force of the heart were very irregular, and an intermittence every seventh or eighth pulsation was observed, for which arsenic was ordered.

December 26th. No farther relapse. Patient rapidly improving in every way.

February 24th. Since the last report she is entirely convalescent. Has had occasionally slight attacks of pain with hysterical symptoms, but is up and about the ward, rapidly recovering strength. The murmurs have entirely disappeared and she has no discoverable cardiac symptoms.

Cases of chronic valvular disease of the heart, which are traceable with more or less of confidence to antecedent attacks of rheumatic fever, are common enough in the experience of all physicians, especially so to those engaged in hospital practice; but acute endocarditis supervening suddenly in the course of rheumatic fever must notwithstanding be of comparatively rare occurrence in the experience of any one practitioner, and, for this reason only, the above case is thought worth reporting. Two or three points will be more especially noticeable: (1.) The intolerance of salicylic acid. This remedy is now almost universally used in the hospital, and though not always, it is in the vast majority of cases successful in cutting short the arthritic pains in twenty-four hours or less. In this case not only did it fail to give relief, but, by the gastric irritation excited, it materially aggravated the patient's sufferings. (2.) The intensity of the murmurs and the presence at one time of well-defined systolic, diastolic, and presystolic souffles, which, with the pain, cardiac and pulmonary distress, and the increased area of dullness, indicated the extent of the endocardial and pericardial inflammation. The fact that these murmurs and all evidence of resulting valvular disease finally disappeared entirely does not prove that the organ sustained no damage to be manifested at some future period. In this connection the remark of Aitken (vol. ii., page 574) is significant: "After an attack of endocarditis there may be no defect of the valves capable of physical recognition. The valve texture, however, may be nevertheless damaged, so that shrinking, atrophy, and retraction of the tissue, commencing gradually, progresses very slowly, so that no valvular disease may appear for months after; and any pain in the region of the heart which may have attended such an attack may be quite forgotten." It is hardly probable that these murmurs were merely hæmic, in view of their sudden development and the coincident symptoms. Merely hæmic murmurs — not of rare occurrence in the course of rheumatic arthritis and Bright's disease — are more gradual in their development, less intense and unaccompanied by such extreme cardiac irritability, pain and distress. (3.) The situation of the maximum intensity of the murmurs, increasing from the valvular orifices upwards, and the well-marked thrill developed in the same course and extending into the carotids, would render it probable that the inflammation was most intense about the valves of the aorta and the first part of that vessel.

## LETTER FROM BERLIN.

MESSRS. EDITORS,—Inasmuch as your journal extends its ægis over so-called preventive medicine, a few words upon a department of school hygiene, namely, gymnastics, may not be judged out of place.

It is well known that for many years past there has been much enthusiasm in Germany, especially in North Germany, with regard to gymnastic exercises. This interest in the better development of the body, combined with the German love of organization, made itself felt in the formation of *turnvereine* on every hand; all united together in a great national *verein* and in the impulse given to the systematic physical instruction of school children.

For quite a number of years past every girl in Berlin, from the age of six or seven upwards, has been obliged for two hours a week to receive systematic instruction of this kind, generally given in some large hall attached to or near the school, and every teacher desiring to teach in the branch has been obliged to receive a special diploma from one of a limited number of authorized training schools. I have recently been able to see something of the practical instruction of teachers in Berlin, and also of girls of different ages, as well as to hear the opinions of a few instructors and scholars with regard to the working of the system, and I propose to speak of what has struck me as important in the matter.

It may fairly be maintained that school gymnastics might be expected to be of service in three principal respects: (1.) By giving refreshment and relief after the fatigue due to constrained positions of the body and to mental effort. (2.) By imparting certain special faculties and habits of body, such as better methods of breathing, walking, and running, and of maintaining the equilibrium in various postures, etc.; in general by increasing what might be called muscular consciousness and muscular power. (3.) By imparting habits of obedience and of combined action.

The Prussian system of instruction is not well calculated to fulfill the first of these indications, as it does not (as in some schools in Massachusetts) interrupt the school hours, but is pursued as a separate branch of study, and generally in a building separated from the school-house. With regard to the second, opinions differ. Most of the teachers naturally maintain that the carriage and health of the pupils is benefited by the exercises, but I found one instructor, an outspoken and apparently intelligent man, who doubted greatly whether, with only two hours a week of exercise, either of these results was obtained, saying that "one might as well expect to live by eating twice a week," and he held that the real benefit lay in the acquisition of habits of prompt obedience and in the amusement which was afforded.

Two young men of education and intelligence, with whom I talked, expressed similar views, and hardly credited the opinion sometimes maintained that the training given to the boys at school might take the place of one or two years' service in the militia. One, however, said that he had noticed, what may well be believed, that among his acquaintances, when in later years fencing, etc., were studied, they came more easily to those who had gone through the school exer-

cises than to those who had been excused from these exercises. As to the third indication, the importance of which could hardly be overrated, it will readily be conceded that the manner of meeting it which received Prussian approval could hardly fail to be the best. The most important requisites for the success of exercises undertaken for this end are perhaps large, but not too large classes, a hall large enough to allow of marching and manœuvring, a sufficient number of assistants, and above all a strict but inspiring teacher, for it is the latter condition much more than the character of the exercises which determines whether these shall be invigorating and useful or tedious and useless.

The fashion of wearing very high and pointed boot heels prevails apparently to an unfortunate extent among the children of Berlin, and in glancing through the ranks of a hundred little girls of about eight years of age, it was easy to pick out a number of *pedes valgi* and *vari* to which such heels had given rise. I found also that the teachers were aware of the fact, but felt themselves powerless to move in the matter.

Several new hospitals have been built in Berlin since the war, which have diminished to some extent the numbers of patients in the Charité. The largest of them, approaching in size the Charité itself, is the Städtische Krankenhaus, at Friedrichsheim, a pleasant place on the borders of the city. It is a collection of handsome brick pavilions of two stories, separated by large spaces of cultivated ground. In the midst of this open ground, about fifty to a hundred feet from each pavilion, is a structure perhaps five feet high by eight square, with open, slatted sides, communicating by under-ground passages large enough for a man to walk through with the heating apparatus in the cellar of each building, and finally with large registers in the middle of each ward, opening upwards, but raised about three feet above the floor. In this way pure heated air is introduced, while the foul air is sucked out through numerous openings near the walls into a chimney at one end of the building, the air within which is in winter heated by the same furnace which heats all the wards, in summer by a special fire. Some of the rooms can also be heated by direct radiation from hot-water pipes, and the raised, table-like registers are surrounded by similar pipes, whereby the air within is still further heated and a good draught maintained. The arrangements are said to work very well, but to be expensive.

Virchow is credited in part with the suggestion of this plan, as also with that of the form of the chairs used in the hospital, which are peculiar in possessing at the back a plain slanting piece of wood so placed as to support the os sacrum and the lower lumbar vertebræ. On trying them I was tempted to make the criticism that the fore-legs needed slight lengthening, in order to counteract a tendency to slip forward, but they were otherwise very comfortable.

Very truly yours,

JAMES J. PUTNAM.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 7, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228			27.46
Philadelphia	850,856	367	22.43	22.88
Brooklyn	527,830	215	21.18	24.31
Chicago	420,000	143	17.70	20.41
Boston	363,940	139	19.86	23.39
Providence	103,000	42	21.16	18.34
Worcester	52,977	20	19.63	22.00
Lowell	53,678	16	15.50	22.21
Cambridge	51,572	14	14.12	20.54
Fall River	50,370	23	23.74	22.04
Lawrence	37,626			23.32
Lynn	34,524	9	13.56	21.37
Springfield	32,976	11	17.35	19.69
Salem	26,739	7	13.61	23.57

ERRATUM. — In our last number, page 430, line ten, the word "veins" should be "virus."

BOOKS AND PAMPHLETS RECEIVED. — The Curability of Insanity. By Pliny Earle, M. D., Utica, N. Y.

Phthisis: Its Causes, Diagnosis, and Treatment. By William Porter, M. D. (Reprinted from the St. Louis Medical and Surgical Journal.) 1877.

Discours prononcé à l'Inauguration de la Société Clinique de Paris. Par M. le Professeur Peter, Président. Paris. 1877.

Sixteenth Annual Report of the Board of Managers of the Woman's Hospital of Philadelphia. January, 1877.

Report of the First Congress of the International Otological Society, New York, September, 1876. New York: D. Appleton & Co. 1877.

A Case of Diplocus Binauralis, with Remarks, and a Case of Restricted Range of Audition. By Swan M. Burnett, M. D., of Washington, D. C. (Reprinted from the Archives of Ophthalmology and Otology.)

Circular No. 9, War Department. Washington, March 1, 1877. On the Transport of Sick and Wounded by Pack Animals. By George A. Otis, Assistant-Surgeon U. S. Army.

Principles of Theoretical Chemistry. By Ira Remsen, M. D. Philadelphia: Henry C. Lea. 1877. (From A. Williams & Co.)



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A SYNOPSIS OF PRIVATE OBSTETRICAL PRACTICE FOR FORTY-TWO YEARS PREVIOUS TO JANUARY 1, 1876.<sup>1</sup>

BY WILLIAM INGALLS, M. D.

Soon after the proceedings of the Dublin Obstetrical Society in April, 1872, were published, I read the Report of Private Obstetrical Practice for Thirty-Nine Years, by Fleetwood Churchill, M. D. Pondering this report, holding frequent conversations and comparing cases with intimate professional friends whose duties in large proportion embraced this important branch, knowing that I had had in all my forty years of general practice a large number of "labor cases," I have imposed upon myself the task of gathering together and assorting my experience, in the hope that it might be of some interest if not of importance.

Churchill modestly says in his introduction, "I do not suppose that the results of my practice are more favorable than those of other practitioners, and their only merit is that they were entered in my case-book at the time they occurred. . . . I believe I may claim perfect accuracy for what is recorded." I also claim accuracy for what follows, adding this, that I have uniformly omitted to record or make notes of those cases which were normal, and of cases which were of no special interest.

The doctrine of compensation or equipoise is frequently illustrated in our profession, and especially in the obstetrical branch thereof; for we find two or three of our friends harassed throughout their professional lives by a succession of formidable abnormal cases, which, by the bye, they manage for the most part with consummate address, while there are others who seem to have rarely encountered any but simple cases.

Within the forty-two years previous to January 1, 1876, two thousand obstetrical cases were under my care. Below are the records of such cases as were of special interest or importance, or which required from various causes the application of art. Abortions, premature labors, and consultation cases are not included in this number; an exception, however, will be noticed in the record of plural births.

*Variola; a Case of Delivery on the Seventh Day of the Eruption.*—The woman and her husband and four of her eight living children were the occupants of the only two rooms which, with a small attic story, com-

<sup>1</sup> Read before the Obstetrical Society of Boston, February 10, 1877.

prised the house. On my arrival I learned that labor began five hours before, that my patient was in the seventh day of the eruption of variola, that she had mild delirium, that three of the children were in different stages of the disease, and that there was a great want of light, air, and food. Within an hour the whole family was vaccinated, and at the end of it the baby was born, and upon its lips, forehead, and body there was the characteristic eruption of the disease at about the fourth day. As soon as the baby was born it was vaccinated. One of the children, five years of age, died on the eighth day of the eruption; all the others recovered, the baby having the disease lightly.

*Scarlatina: Two Cases; One having Scarlatina at the Time of Delivery; the Other associated with the Disease.* — CASE I. Two children had scarlatina simplex, and one had scarlatina anginosa; the eruption had nearly disappeared; they had been taken care of by the mother, who was at full term of pregnancy. Early in the morning of the seventh day of the eruption of the disease in her children, the mother was taken with vomiting and fever, and from four to six hours after, the eruption made its appearance upon her face, breast, and arms. Labor began about twelve hours after the vomiting, and the child was born four hours after that, covered all over with the scarlet eruption. All the cases recovered.

CASE II. In this family there were three children passing through the disease when the mother was taken in labor, which was accomplished without untoward event while she and the whole household, aside from the sick children, were suffering from scarlatinous throats. About twenty-four hours after the birth the baby displayed a perfect specimen of the eruption over its whole surface. All recovered, but the eldest son suffered for a long time from sequelæ of the disease.

*Rubeola: One Case of Delivery within a Few Hours after the Appearance of the Eruption.* — There seemed to have been no prodromal stage in this case: the eruption made its appearance on the mother early in the day; the child was born in the afternoon after an easy labor of three hours, and was covered with a perfectly developed eruption; both recovered.

*Plural Births: Thirty-Three Cases and Sixty-Seven Children; One in about Sixty-Two Labors; One Case of Triplets; the Remainder, Twins; Sex of the Children as follows:—*

	Male.	Female.	Total.
One case of triplets.....		3	
Four cases of miscarriage at four, five, seven, and eight months....	8		
Five cases of miscarriage at four, four, five, seven, and eight months	5	5	
Five cases at term, one child of each sex.....	5	5	
Eleven cases, all males.....	22		
Seven cases, all females.....		14	
	40	27	67

There was, also, one abortion of twins at ten weeks, which was produced by an instrument; there was profuse flooding and prolonged convalescence. The triplets lived to be twenty years of age, and for aught I know may now be alive at forty. Of the miscarriages three were acknowledged to have been induced, one of them by an instrument; in the others the means used were concealed; the mothers recovered without trouble. In one of the cases at term the male presented the left shoulder with head to the left, and was turned and delivered; the female followed normally. In three cases the second child was born dead; two of them had evidently been so for several hours. In many of the cases special notice was taken of the placenta, but there are no records.

*Deaths of Mothers: Three Cases.*—There were three deaths of mothers attributable to or connected with childbirth, each occurring within seven days of that event, and there were no other deaths due to that cause.

CASE I. S. S., age thirty-eight. This was the sixth single birth in eight years. The labor was normal, but the lady was, and remained, blanched, and coughed a great deal, having a sense of weight or oppression over the chest. She died on the seventh day after delivery.

The autopsy was made by Dr. Bowditch. "There was found cartilaginous thickening of the mitral valves of the heart, and a congested state of the lungs, . . . slight trace of tubercle, . . . uterus well contracted, peritoneum and intestines normal."

CASE II. P. S., age twenty-two. Primipara. Upon my arrival I was informed by the midwife in attendance that the existing condition of things had remained the same for from four to five hours. I found a second stage of labor, the os not fully expanded, an œdematous anterior lip, and a protruding *caput succedaneum*; the patient was uncomplaining and almost indifferent, evincing great fatigue rather than exhaustion. Having drawn off the urine and succeeded in gently forcing back the anterior lip, I waited for two or three pains, when, finding that the head remained stationary, and taking into consideration the condition of the patient, I applied the forceps, and having brought the head down far enough to cause bulging of the perinaeum, disengaged the instrument; after this with the third or fourth pain the head was born, the child giving evidence of being alive by gasping and uttering one or two feeble cries. There were several minutes (four or five) before a shoulder could be brought down; as soon as this was effected the child was born dead. The mother seemed to be going on well up to the seventh day, when she suddenly died. Autopsy was not permitted.

CASE III. Mrs. R., age thirty-six. A well-formed and healthy woman; had been delivered by me, successfully, three times. The fourth labor went on propitiously up to the moment of the expulsion of

the child, which came quickly with a gush, the placenta following immediately, and simultaneously a deluge of blood and collapse of the mother. Instantly I sprang upon the bed, and, seizing the legs under my arms, elevated the pelvis and ordered snow or ice to be brought without delay, and had a dram of fluid extract of ergot and a half an ounce of brandy poured down the throat. Resigning my position to the husband, I passed my hand within the expanded uterus and with the other kneaded it externally; there was no contracting response. Basins of snow arriving, a ball of it was conveyed within the womb, and soon after this I was enabled to inject water at a low temperature. Pressure upon the abdominal aorta momentarily checked the flowing of blood, but it seemed to me there was little left within the body that could come away. Dr. Arnold, who arrived fifteen minutes before the death, has kindly sent me his notes of the case, from which I make the following extracts:—

“A remarkable feature was the irregular contraction of the uterus: sometimes it seemed to have contracted quite firmly, as was evinced by the small, rounded tumor and the hard, firm walls, and again to dilate to the size of one four months pregnant, while digital examination found the walls of the uterus soft and spongy. This contraction and dilatation occurred irrespective of the compression of the aorta. Although during the continued compression of the aorta but little blood was lost, she still sank.”

There had been no contraction of the womb up to the moment of the first introduction of the hand of Dr. Arnold, but in two or three minutes, by our united efforts of kneading and compressing the aorta, the contractions mentioned in his notes took place. The time from the birth of the child, which is alive and well, to the death of the mother was one and a half hours. I may mention that perchloride of iron was sent for, but it failed to arrive.

*Two Cases of Obstinate and Protracted Rigidity of the Os.*—There were two cases worth mentioning, in which this condition was observed in primiparæ; both were strong, muscular women, having black hair and dark complexions:—

CASE I. Mrs. S., age thirty-nine. I was called to this case early in the morning, and was told that the pains, which were of great strength and severity, began twelve hours before, and still continued. Natural evacuations had taken place within two hours. Upon taking a pain I found it almost impossible to reach the os, which was well up in the hollow of the sacrum, but eventually made it out, closed, hard, firm, and unyielding; the hard, rounded body behind the anterior segment of the uterine wall indicated a head presentation; there was little moisture of the vagina; the abdomen was not pendulous. I ordered nourishment and afterwards opium. Returning five hours later, I

learned that there had been but slight effect from the opium. Taking a severe pain, I found that the condition of things seemed not to have changed in the slightest degree; and it was the same after eight hours from this time, although opium had been given more freely. There was no lack of courage, patience, or strength. The patient now sat in a warm hipbath for thirty minutes, after which the vagina was filled with warm sweet-oil. Tartrate of antimony was given; there was no nausea, but after a while a copious alvine dejection. I now made an attempt by manipulation over the abdomen to change the position of what I believed to be the head of the child, so that, if successful, the os should come forward within easier reach of the finger. I signally failed. Venesection and inhalation of ether were peremptorily declined. The husband and I were the only persons in attendance; a spring freshet had surrounded the house, which was built on piles, with water and ice to the depth of three feet, the storm was raging, and for these reasons counsel was not readily attainable and I was forced to go through with the scene as best I might, alone.

After about forty-eight hours had elapsed since the beginning of these hard pains, recurrent on an average every five minutes, without producing apparent effect, there seemed to be a moderate increase of vaginal mucus and a little less hardness of the os, which was, to a trifling degree, more readily accessible, so that I warrantably felt encouragement. From this hour labor went on with perfect regularity; but twenty-four hours elapsed before the birth of the child, which was born alive, he and his mother doing well.

Seventy-two hours is a long time for a woman to be under the suffering of such pains as those of labor, and if she maintain her strength and good nature to the end as did this one, we can but remark the fact as unusual. It should be borne in mind that these, from the beginning, were not the "irregular," "flighty," "aggravating" pains which occur before labor fairly begins, but I emphasize the fact that they were downright, hard, contracting pains.

CASE II. Mrs. C., age twenty-two. In this case the strong pains began sixty hours, and the os gave symptoms of yielding ten hours, before the birth of the child. In almost all respects this was like the first case. Venesection and inhalation of ether were refused. The mother and child did well.

*Three Cases of Convulsions.* — The following are the only cases of convulsions I have witnessed, and the notes of them are transcribed in full: —

CASE I. L. V., age thirty, third labor, dark haired, and somewhat above medium size. Labor normal and hygienic surroundings apparently good; the placenta followed the child in about three minutes, and five minutes after that the woman, lying nearly on her left side, be-

came violently convulsed; in a short time, having come out of that condition, she drank some water and soon had a second convulsion, less severe than the first, and again a third, quite moderate, which was the last. With the exception of the water which she was allowed to drink there was almost nothing done for her, for the good reason that there was nothing available with which to do anything, except never-absent mustard, which was plentifully rubbed on her feet, legs, and back. Mother and child did well.

CASE II. A. P., age thirty-five, primipara. This tall and thin, black-haired woman had a normal delivery, the placenta following the child within five minutes; twenty-five minutes after this, while lying nearly on her left side, she was seized with a violent convulsion, which having passed, she fell into a quiet and peaceful condition and remained so for nearly two hours, undisturbed. She now had another convulsion, seemingly of greater severity than the first, on the subsidence of which, finding her pulse hard and incompressible, I took from her arm many (the record says forty) ounces of blood, at the same time having her seated in a chair with her feet in a hot foot-bath. While she was in this position there was a third and less severe attack, after which we replaced her in bed, where she slept quietly for nearly an hour and a half; she then had the fourth convulsion, which was moderate and the last.

At about this time Dr. G. H. Lyman was driving by the house, and I invited him in, and he gave me kindly encouragement to expect a recovery. Mother and child did well.

The hygienic surroundings of the wooden house were not good; it had been built and occupied many years, and, as is the case with about nine tenths of the farm-houses in the country, the earth on one side was saturated with the thrown-out household slops.

CASE III. J. S., primipara, age twenty-one. A tall and rather large-framed woman, of nervo-sanguine temperament; was going on normally with the labor, when, after the head of the child began to expand the perinæum and slowly but perceptibly to advance, regularly and propitiously, I perceived her eyes rolling upwards and a moderate "hunching" of the right shoulder, as she lay nearly on her left side. Quickly stepping into the next room for my forceps, I found the patient upon my return in a well-developed convulsion, and also placed by our most excellent nurse — bless her — in an admirable position for the use of instruments, and a deep pitcher of hot water on the floor, into which I plunged the instruments for a moment and then, immediately, by their aid drew forth the child; in a few minutes the placenta followed. There were but two other convulsions, each less severe than the previous one. There was a profuse hæmorrhage afterwards, but by the time of the arrival of Dr. H. G. Clark, who had been sent for,

there seemed to be no important indication for serious apprehension of an unfavorable result. Mother and child did well, and have remained so these eight years.

In none of these three cases were there any premonitory symptoms leading me to anticipate trouble of any kind at the birth. In the first two no anæsthetic was used; ether was administered in the third case for about one hour, and the attack took place while the patient was under its influence. The hygienic surroundings, so far as I know, were unexceptionable. It will be seen that in the first of this series of cases almost literally nothing was done for the restoration of the patient; in the second much was done; and in the third that was done which, I suppose, was what any obstetrician would have felt certain was the proper thing to do. I must be pardoned for the few words interposed about the nurse; they and more are in my notes. To have a kindly, cool, and handy nurse, one who is willing and knows what to do at the right moment, is next to having, in an emergency, a strong, friendly, and reliable brother-practitioner by one's side.

*Nineteen Cases of Accidental Ante-Partum Hemorrhage, Immediate and Remote.* — One case of profuse hæmorrhage immediately preceding labor is recorded as follows: S. S., aged thirty-six, third labor. A delicate woman, bearing children in rather quick succession, early one morning walked from her bedroom to her kitchen, which was on the same floor, and while standing for a minute or two giving directions had a gush of blood from the uterus, in quantity represented as amounting to at least a pint and a half. She was immediately clasped by the cook and quietly drawn back to her bed, upon the side of which she sat, being disinclined to get into it, as she did not feel particularly faint. Thirty minutes after the gush of blood I found her in the position above mentioned, cool and collected, assuring me that she had not lost blood to any amount since the first moment, and that she had had no pain. It was soon expedient for me to make a careful examination, and I found that with the exception that the os was patulous, readily admitting the end of the finger, everything was normal. There being no hæmorrhage and the mind of the patient reliant, I awaited developments. Not many minutes elapsed before pains began, and the labor went on with perfect regularity, and a healthy female child was born in about one hour, the placenta following in five or six minutes. Mother and child did perfectly well.

Of nine women, three were primiparæ, two had had one previous labor, three had had four previous labors, and one had had nine; each had flowing about four weeks after conception, the time being reckoned back from that of the delivery, which was at term, and in no case was there any special trouble.

In three other cases there was a flow three consecutive times at the

monthly intervals next preceding delivery, and in one case a flow four weeks previous to delivery; in each of these cases mother and child did well. Nineteen cases are accounted for, and in all of this series the report is reliable; I mention this because there seems to be so strong a disposition in pregnant women, or in those who have recently passed through the ordeal of childbirth, to exaggerate in their relation of what they have experienced, and we are told tales of great hardship and many hair-breadth escapes. In the first case I could but be apprehensive for a while of having to conduct it through the dangers of a placenta prævia. I know of no solution of the cause of the hæmorrhage but this, that an edge of the placenta must have started away from the uterine surface; it was carefully inspected at the proper time, but nothing unusual presented. The other cases seemed to be of the kind we read about, of deviations in the regularity of the menstrual function, and that would appear the more probable from the fact of the periodicity of the discharge. During the flow and for several days after its cessation, the principal treatment relied upon and peremptorily insisted upon was absolute rest.

*Fifteen Cases of Post-Partum Hæmorrhage.* — Under this caption the case which was related under that of Deaths of Mothers is not included, because the birth of the child, that of the placenta, and the flooding were as nearly simultaneous as was possible, and therefore the hæmorrhage can hardly be said to have been post-partum. There are fifteen cases, of which there are special notes, which properly come under this head; in six of them flooding occurred on account of inertia of the womb following prolonged and exhausting labor; in seven, on account of a too rapid labor; in one it took place three hours, and in one eight days after the birth of the child, and upon the last two cases are the following comments: —

The labor in the case mentioned last but one was attended by the mother of the patient, and she called for my assistance because her daughter was getting pale and restless. I learned that the child was born about three hours before my arrival; that the afterbirth followed in about three minutes, “a little aid having been given.” The patient, blanched and restless, had a sighing respiration and an irregular pulse. The womb was expanded to the size of the new-born child’s head; the os was loosely closed around a string of membrane about the size of an ordinary untied skein of silk, and at the moment of examination there was but a moderate flow of blood through it. The shred of membrane having been removed, a finger was insinuated within the womb, which was occupied by a large clot, and when this began to come away contraction of the organ followed, and there was no further trouble.

The cause of the hæmorrhage in the case in which it occurred eight days after the birth of the child is unaccountable, for the labor was nor-



mal, the health of the lady had been good, suitable and sufficient nourishment had been taken and enjoyed, the nurse was faithful, and all the surroundings were of the best. I arrived thirty minutes after the first moment of alarm, and found the patient breathing slowly, but not in a labored or sighing manner, the pulse soft and slow, the skin normal to the touch. The uterus seemed not to be expanded, or if it were it was to a limited extent; there was a moderate flow of blood from the womb through the os, of which I convinced myself by digital examination, exercising the greatest circumspection. In the bed was a large clot, which the nurse said escaped from the vagina just before I came to the bedside. I gave a drachm of fluid extract of ergot, and afterwards brandy. In about one hour from the first alarm the bleeding ceased, but during two hours fainting continued intermittingly, and from that time there was a gradual recovery of tone and complete restoration to health. The occurrence took place in the forenoon of a hot July day. The nurse thought the fainting took place before the hæmorrhage.

These two are the only cases of post-partum flooding which have occurred later than one hour after delivery of the child; the other thirteen cases all happened and ceased within the hour, and do not demand any special mention.

*Two Cases: One of Puerperal Hysteria, one of Puerperal Mania, or, as Churchill thinks it should be called, Puerperal Insanity.* — I deem it of importance to report these two cases, one following the other, that they may be compared or contrasted. They are the only cases of the kind which I have witnessed.

J. I., age thirty, temperament sanguine, previous health uniformly good, was delivered of her second child on the 14th of February, 1847, the birth being perfectly natural, and for twenty-four hours everything went on propitiously. Early in the morning of the 15th a violent thunder-storm arose, and one particular flash of lightning, which shattered a tree hard by, seemed to my patient to have exploded in a luminous ball in her bed, between her husband and herself. On the following afternoon, having been called to her, it was reported to me that she had been alone for the greater part of the day, and that for an hour previous to my visit the symptoms which I then observed had been manifest: these were restlessness, a face of scarlet, a quick, hard pulse, skin hot to the hand, eyes glistening, mild delirium, with intervals of momentary consciousness, in which she spoke the words "head," "lightning," "expect to die." I immediately took from the back of the neck a large quantity of blood by means of cups, applied cold to the head, sinapisms to the extremities and spine, and gave small and repeated portions of tartrate of antimony, the Rasorian plan. After a few hours the high grade of excitement was subdued, but the condition

of the patient was anything but promising. There was variety in her symptoms. At one time there would be for an hour or more an utter listlessness, succeeded, perhaps, by four or five hours of a disconnected jumble of occurrences which had happened recently and remotely: a scene would be described in part, and, as though it were a part of the same, another would be interposed, and so on in the same strain of voice, without emphasis, the diction being always good and refined. From and after the expiration of the few hours mentioned above there was no febrile excitement, but there was insomnia, which opium in small and in large doses proved itself unable to overcome, and after due trial it was laid aside. Each day was a repetition of the preceding, the baby was utterly unnoticed, and this condition endured for thirteen days and nights. On the morning of the fourteenth day from the attack, although nourishment and moderate stimulation had been administered throughout, my patient was found to be sinking rapidly, as shown by coldness of the extremities, the failing and faltering pulse, the sighing, the whispering utterance, drooping eyelids, and tremulousness of the hands, and also by our inability to arouse her consciousness. At this point I gave, regularly every five minutes, one teaspoonful of the richest egg-nog made with brandy, so that she swallowed about ten drops of the stimulant with each spoonful. At the expiration of about an hour of this treatment I had the satisfaction of feeling the pulse improve and of seeing the countenance begin to manifest some intelligence; a little further on there was evidence of a disposition to sleep, and this was permitted. On the sixteenth day convalescence was fully established, and on the seventeenth, the baby having been put to the breast three times, milk was yielded, and the health of both mother and child was fully restored.

*Puerperal Mania.* — D. P., primipara, age twenty-six; temperament phlegmatic; for eighteen hours after normal delivery was in as promising a condition as one could wish, mentally as well as physically. At this time she awoke after having had what appeared to be a comfortable hour's sleep, previous to which she had suckled her baby, there having been a secretion of milk for three weeks. Two hours after this point of time I saw and examined the patient, first having learned from her attendant that quite soon after awaking there seemed to be a fixed expression of countenance, the complexion not changed, a slow and waving motion of hands and arms, an absolute want of response upon being spoken to, these symptoms lapsing at about the end of an hour into those in which I found her, and which were those of any maniac: exhibiting superhuman strength; unceasingly uttering the most profane and obscene language at the height of her voice; showing neither redness nor pallor of face; her actions purposeless or but momentarily fixed; regardless of her baby and all around her. The pulse

could not be examined, the temperature of the skin was pleasant to the touch, and there was no perspiration. This bad condition went on to worse if possible; the habits became filthy, and, the family not being able to take care of her, at the end of the second day removed her to an asylum, where, I was told, she died at the end of three weeks. Her mother had at this time seven living children, one of the daughters having been, at the age of twenty, for a short time insane; no other case of insanity had manifested itself in the family so far as known. Treatment was attempted, but was not carried out.

*Two Cases of Breech Presentation.* — These cases require no particular comment save this, that they were in the third and fourth labors of the same woman; the first and second labors were normal.

*One Case of Hydrops Amnii.* — There was an enormous outflow of liquor amnii, a deluge; it was in the evening, and I could not tell whether it was bluish or greenish; it was one or the other. The baby was born with a double harelip and fissure of the palate. I watched the child for twelve years, but the mother was obdurate, and would not permit intervention of the surgical art. Let us hope that if an operation had been performed it would have been successful.

*Still Births: Nine Cases.* — A. P., age twenty-three, primipara; large and well formed; uniformly in good health. About the middle of the seventh month of pregnancy the patient had noticed an irregularity, or a nodulated or unsymmetrical form of the abdomen, and this condition obtained throughout. At term, during the day, there were slight and occasional pains; in the evening regular and dilating pains came on about every ten minutes; the presentation could not be determined; the pains having ceased at midnight, the patient slept from that time until eight o'clock, when they returned. At twelve M. the os, dilatable, was the size of a silver dollar; presentation still obscure; the head, externally, could be felt in the right iliac fossa. External cephalic version was attempted, but without success; the waters had not escaped.

After a cool consideration of the state of the case, — the increasing fatigue, the severity of the pains, the hopelessness of a spontaneous rectification of the position of the child, the reasonable apprehension that there would be some abnormal presentation, an arm, for instance, — version was decided upon and performed under chloroform. At this time success attended adroit external manipulation in so far that the head was brought up to the level of the umbilicus, and this enabled me to reach a foot quite cleverly without being obliged to carry the hand high up within the womb; by this means legs, body, and arms were extracted; not so the head. Rotation brought the face towards the pubes, which process probably may have been assisted by one blade of the forceps, which was applied and moderate force used; the other blade being introduced could not be properly locked; the death of the child

took place during this process. [My mental observation at this moment was that the rotation to the position indicated would have taken place at any rate, and that no justifiable force for the purpose of preventing it would have done so.] Chloroform was now suspended, and the patient slept for half an hour. This description is in exact accordance with what was done. I must here add that the importance of knowing with accuracy the presenting part, or what might become the presenting part upon the impending rupture of the membranes before proceeding to the operation of version, was keenly felt. The fingers, the membranes intervening, assisted the external manipulation, and by the time the head reached the height of the umbilicus the waters broke, and upon the immediate introduction of a part of my hand towards the left side of the mother the foot was reached.

Anæsthesia being again induced, an attempt was made to perform craniotomy with a trephine craniotome, but the instrument did not work well. At last a blunt hook was introduced within the child's mouth, and by the aid of external pressure of the strong hands of an assistant, the child being turned well backwards towards the back of the mother, together with traction by the hook, the head was delivered about an hour and a half from the commencement of version. The lower maxilla was fractured. The perinæum was torn through one half; it healed kindly, and gave little trouble. The patient made a good recovery, with the exception of a sensation of loosening of the pelvic synchondrosis, which was remedied by wearing a stout belt. The child, a male, weighed eleven and one half pounds.

There now follows an outline of four cases of babies born dead, who must have ceased to live within a short time previous to their birth. The first was born thirty minutes after my arrival at the bedside; the progress during this half hour was in all respects perfectly natural; the cord was around the neck once, and was easily disengaged; the child never breathed; there were two living, healthy children by the parents of this one.

The second was a first-born. The second stage of labor was somewhat protracted, but otherwise normal, the advance of the head being steadily progressive.

The third was as much like the second as could well be.

The fourth was a third child; the cord was twice around the child's neck, and was unusually strained; it was cast off at the first possible instant but the child did not breathe.

These children were born of healthy parents whom I had known intimately for several years, and were plump and well formed. Children have since been born to the mothers of all but the third. I need not say that all devices were put in operation in the hope of revivifying the little ones. One case of still birth from prolapsus of the cord should be added to this category.

There are three cases of children born putrid, of two of which no history could be learned; of the third the mother declared that she had been struck upon the abdomen accidentally by a broom handle three weeks previous to her delivery, which was at full term; the labor was natural; the placenta was much thicker than any one I have ever seen, and it weighed more than four pounds. The patient said she had suffered nausea during the three weeks, had performed her household duties, and had been well enough. She rapidly recovered from her confinement, as also did the other two.

*Phlegmasia Dolens: Two Cases.* — CASE I. Two cases of this affection have fallen under my charge. The first was after the birth of the second child of the lady who had the hæmorrhage at the onset of her labor. Fourteen days after her normal delivery, suddenly, great pain seized the whole of the left leg, followed shortly by swelling of the part, which in about forty-eight hours involved the whole limb up to the groin, and no higher at any time. In the fourth week the swelling began to subside, in the seventh week the patient could walk, and at the end of three months there was no trace of the disease.

CASE II. The second case was that of a little woman, anæmic to a great degree, who was suddenly taken in labor at term, and whose child was born within half an hour. She had habitually an utter distaste for meats, and I might almost say for anything that would yield good nourishment. Nevertheless, by care and watchfulness the case went on satisfactorily until the tenth day, when she besought me to let her get up; I reasoned with her, and charged her not to attempt to do so. At my visit the next day I found my patient in a high grade of fever, suffering agony in the calf of her left leg, which was already swollen, tense, and shining. Having done what I could to alleviate her condition, I sought and found out the cause of the trouble, which was this: within an hour of my previous visit the nurse prevailed upon her by saying, "The doctors were forever wanting women to lie in bed for a month, and it was all nonsense; all my ladies get up on the tenth day, and there is no reason why you should not; so now get up and walk around your bed just once," and the little lady did get up and walk around her large French bedstead once, and within two hours her sufferings began. After two or three weeks I was discharged, and I cannot say anything more about the case save this, that the swelling invaded the whole limb, and the other was not affected. The nurse was retained.

*Craniotomy.* — In 1840 there was one case which, in my judgment, required craniotomy, and it was performed. Counsel was sent for, but there was so long a delay that I proceeded alone and accomplished the object. The mother recovered. I cannot venture to give the particulars of the case from memory, and I regret that I am unable to find the little book in which the record of it was made.

The sum of the cases I have recorded is as follows:—

Delivery during variola .....	1
“ “ scarlatina .....	2
“ “ rubella .....	1
Plural births .....	33
Deaths of mothers within seven days .....	3
Rigid os .....	2
Convulsions .....	3
Flooding, ante partum .....	19
“ post partum .....	15
Puerperal hysteria .....	1
“ mania .....	1
Hydrops amnii .....	1
Breech presentations .....	2
Dead born, including one from prolapsus of cord .....	9
Phlegmasia dolens .....	2
Craniotomy .....	1

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## RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.<sup>1</sup>

BY F. C. SHATTUCK, M. D.

*Paracentesis Thoracis.*—A few more cases of sudden death after this operation are reported. Dr. Cayley<sup>2</sup> read before the Clinical Society of London the case of a man admitted into hospital September 22, 1875, after an illness of five weeks. Right pleuritic effusion was made out, and on September 25th the chest was tapped and twenty-three ounces of turbid serum were withdrawn. The fluid seeming to reaccumulate, the patient was tapped several times and smaller quantities were removed. October 7th fetid pus was obtained. Between October 25th and November 3d the pleural cavity was washed out daily with a solution of tincture of iodine in water, half an ounce to the pint. November 4th a large trochar was introduced, one ounce of pus was removed, and four ounces of the above solution of iodine were injected. Toward the end of the operation the patient suddenly became unconscious, his face grew deadly pale, pulse very slow, respiration gasping, and pupils widely dilated. Six ounces of fluid were at once removed, and this was followed by flushing of the face, profuse perspiration, convulsive tremor of the right leg, and muscular rigidity of the other limbs, the breathing being at the same time very rapid. At 2.15 P. M. the temperature was found to be 107° F. in the axilla, there was profuse perspiration, the head was turned to the left, momentary clonic spasms of the right side of the face set in, and the eyeballs rolled from side to side. The patient died during the night, sixteen hours after the first symptoms. The post-mortem examination revealed nothing to

<sup>1</sup> Concluded from page 467.

<sup>2</sup> Lancet, November 4, 1876.

account for the symptoms; there was neither thrombosis of the pulmonary vein nor embolism of the cerebral arteries.

Dr. Broadbent then related a case of pleurisy in which tapping was followed by sudden death three and a half hours after the operation. The patient was admitted to hospital January 21st, with left pleuritic effusion of some weeks standing, in all probability. January 26th, at two P. M., eighty ounces of clear serum were withdrawn with the aspirator, though it was not attempted to empty the cavity. The dyspnoea, which had been very prominent as a symptom, was relieved, and the heart returned somewhat to its normal position. At five P. M. the patient was cheerful, said he felt better, and then had tea; at 5.45 he appeared to be quiet and was lying still, but on looking at him it was found that he was dead. The post-mortem examination revealed no sufficient cause for death, which was, therefore, attributed to syncope.

A case of death ten days after thoracentesis, from embolism of the pulmonary artery, is reported by Dr. Andrew.<sup>1</sup> A man, thirty-eight years of age, was admitted into hospital March 30th, with left pleuropneumonia of three weeks standing. The pneumonia cleared up, but the effusion increased, and the man's condition was so unsatisfactory that on May 11th the aspirator was used, and forty-five ounces of greenish, nearly clear fluid were withdrawn. After this the patient gradually improved, and June 23d was convalescent and allowed to go down-stairs and walk in the quadrangle. After this he walked up one flight of stairs to the ward, got into an arm-chair, was noticed to be distressed, and, after a short period of great dyspnoea, died.

On post-mortem examination the pulmonary artery was found plugged with a large, laminated, discolored clot, bearing the impression of muscoli pectinati or columnæ carneæ. It will be noticed in this case that a period of nine weeks elapsed between the commencement of the attack and the performance of thoracentesis.

[Dr. Andrew told the reporter two years ago that he never tapped the chest if he could help it, as he thought that the operation often converted a serous into a purulent effusion.]

Within the last two or three years a number of similar cases have been reported, have attracted much attention, and reopened the whole question as to when and under what circumstances it is proper to operate in the case of pleuritic effusion. The purpose of Dr. Beverly Robinson's<sup>2</sup> paper is to answer this question.

He first shows that, contrary to the opinion of Louis, death has often resulted directly from excessive pleuritic effusion, through either syncope, cardiac or vascular thrombosis, or asphyxia; the latter, again, may be fatal either from excessive crowding or from collateral œdema

<sup>1</sup> Medical Times and Gazette, October 28, 1876.

<sup>2</sup> New York Medical Record, January 27 and February 3, 1877.

of the sound lung. "If, now, sudden deaths do frequently take place in the natural course of a pleurisy of a latent type, where the effusion has become very large, and if the post-mortem condition distinctly show that the presence of fluid in the pleural cavity on either side has been a direct, efficient cause of their production, are we at all justified in delaying to perform an operation which shall surely ward off such occurrences? Evidently not, unless the operation itself be dangerous or objectionable." After ably discussing the propriety of operating in moderately large and even appreciably large effusions, he takes up the cases in which a fatal result has occurred during or shortly after the evacuation, and during or shortly after injection of the pleural cavity.

In some of these cases no autopsy was performed; in others, though a careful autopsy was made, no sufficient cause of death was found; and in others, again, conditions were found which would surely have caused death even if the patient had not been operated upon. There remain a few cases in which the operation was undoubtedly the determining cause of death, but in nearly all of these the result would have been avoided if greater care and improved methods had been employed.

"It has been shown latterly, in every case where convulsions have come on after thoracentesis, that they have appeared while the fluid was being injected, and *not* while it was being withdrawn. This fact would appear to indicate that the *injection* and not the emptying of the chest had something to do in causing death, and in instances where emboli have been found in different organs at the autopsy, the most rational explanation is that it served to detach a thrombus already formed, — sometimes in the heart, more frequently in the pulmonary veins." These complications, however, may follow simple puncture also, and the practical deductions from recorded examples, are, therefore: (1) to perform thoracentesis before these thrombi have formed; (2) to inject liquid, when required, into the pleural cavity with very moderate force and in limited quantities at a time, so as not to increase the pressure on the pulmonary surface. If thrombi have been formed, they may become detached either directly by the pressure, or indirectly by the cough which it may and often does occasion.

Dr. Robinson is persuaded after rigid and careful examination of recorded fatal cases that there are very few, even of those apparently due in a measure to the operation itself, which could not have been avoided or absolutely prevented from occurring. He finally formulates the following law: *In all cases of pleuritis in which fluid is present, we should without hesitation make use of the aspirator to withdraw the morbid effusion.* To this law he affixes one limitation and one exception. The limitation is: whenever very large or excessive quantities of fluid are present, it is wiser to puncture the chest on two successive occasions, so that all risk of acute œdema of the affected side shall be



avoided. The exception is: if the patient be very much enfeebled and the effusion be small or moderate, we may with advantage delay the operation, during a brief period, until his strength have been somewhat reëstablished. By proceeding after this manner, all danger of fatal syncope will be avoided.

*Paracentesis Pericardii.* — Dr. Roberts<sup>1</sup> has collected and analyzed forty-one cases, — all the authentic ones which he has been able to find. The results of the operation are of the greatest interest.

Recoveries . . . . .	19
Hope of recovery (probably death) . . . . .	1
Death . . . . .	21-41

Counting the one case where there is no final result given as fatal, the percentage of recovery is 46.34, of death 53.66 per cent. This rate of mortality is inclusive of all the cases in the table, but seventeen out of the twenty-two who died suffered from concomitant and often incurable disease. In the other five cases no complication is mentioned. This would make only five deaths from cardiac dropsy alone in a series of forty-one cases, a mortality of 12.19 per cent. Since 1850 the cases have been more fully reported, — over twenty-seven in number, and of these eleven recovered, although two had phthisis. Of the sixteen patients who died there was additional disease in thirteen, leaving only three cases where the patient seemed to succumb from the pericarditis alone. In other words, taking the recoveries into consideration, there were out of fourteen cases of pericardial effusion, where other disease did not *act* as a complication, eleven recoveries and three deaths. This gives a mortality of 21.43 per cent., quite as low as the mortality in many other operative procedures which are considered perfectly justifiable.

The time of survival is given in nineteen cases. Death occurred less than a day after the operation in four cases; the time is not accurately given (life prolonged) in two cases. In the remaining thirteen cases the longest time was one hundred and sixty days; the shortest one day; the average 34.15 days. The operation was especially successful in acute rheumatic pericardial effusion, three cases of which are included in the forty-one. Dr. Roberts' statistics are rather more encouraging than those of Roger.<sup>2</sup>

*Obliteration of the Aorta at the Origin of the Ductus Botalli.*<sup>3</sup> — (A similar case was observed some years since by Professor Schrötter, who communicated it to the *Wochenblatt* of the K. K. Gesellschaft, in Vienna.)

This case, highly interesting on account of the wonderful develop-

<sup>1</sup> New York Medical Journal, December, 1876.

<sup>2</sup> Vide last report on Diseases of the Chest in the JOURNAL of October 12, 1876.

<sup>3</sup> Dobell's Report on Diseases of the Chest, 1876. Wiener med. Wochenschrift, 1876, No. 16.

ment of all the characteristic symptoms, was that of a young man, aged twenty-seven, employed as a journeyman carpenter, who, until five days prior to his entry into the hospital, had always been perfectly healthy. He first complained of a cutting pain through the whole of the left half of the thorax, and of great difficulty in breathing. At the first examination, pneumonia of the left upper lobe was discovered, with a remarkably slow, full, and hard pulse. By the sixth day the pneumonic symptoms had entirely disappeared; they were succeeded, however, by others more interesting still. In the carotid and subclavian arteries pulsation could be *seen*, the finger laid on them received a smart "stroke," and a systolic blowing murmur was to be heard in the neighborhood of both these vessels. Behind the thorax, at the upper angle and inner border of the scapula, there were some tortuous vessels with scarcely perceptible pulsation. The heart's action was somewhat violent, the movement of the chest wall being visible up to the left axilla, and the intercostal arteries were seen pulsating synchronously with the radial pulse in their spaces bordering on the sternum. The heart was enlarged in both diameters, but especially from apex to base. The first sound was protracted and diffused; over the aorta both sounds could be distinguished. The first sound was accompanied by a high-pitched, rasping bruit; the aortic sound itself was remarkably clear and ringing. "The bruit, which sounds as if deeply seated, is continued round the left side to the spine; in front it is not heard to the right of the sternum. The abdominal walls are very soft and impressible, so that the anterior surface of the vertebral bodies may be easily felt; yet, in spite of this circumstance, no pulsation is perceptible in the abdominal aorta. The femoral, popliteal, tibial, plantar, and metatarsal arteries are not perceptibly pulsatile. In the region of the colon the percussion rate is duller, with no resistance."

The consideration of these facts left no doubt that the question was one of obliteration or of an advanced degree of stenosis of the aorta below the origin of the larger vessels, this hypothesis explaining the hypertrophy of the heart and the development of a collateral circulation. The patient was discharged at his own request, as he appeared in good health. Three months afterwards, however, he fell down dead in the street.

The autopsy corroborated the opinions advanced during the patient's life: his aorta was completely obliterated to an extent of three millimeters, and his sudden death was due to rupture of the largely dilated vessel within the pericardial sac. "These obliterations," the author (Dr. Josef Hormung, clinical assistant) remarks, "are to be ascribed to the slow development of processes which begin in infancy or possibly during foetal life."

Under the head of *A Discovery in Physical Diagnosis*, Dr. Holden,

of Newark, N. Y., sends a communication to the *Medical Record* of January 20, 1877, in which he describes an apparatus designed to intensify the respiratory sounds in health and disease, and thus to facilitate the earlier detection of the physical signs of phthisis. The "resonator" is a flexible rubber tube two feet long and five eighths of an inch in internal diameter, supplied with a mouth-piece and end-piece, the diameters of which vary from that of the tube. The patient inspires and expires forcibly through this tube, holding the free extremity away from him, and the physician applies his ear to the chest. A singularly magnified character is said to be given to the respiratory murmurs, and the stethoscope is unnecessary. "In thin persons, so great is the exaggeration of the natural sounds that, as with the stethoscope, comparison of the two sides may at times may be requisite to prevent misinterpretation; but in local consolidations and small cavities it has proven invaluable." [The reporter has supplied himself with this instrument from Messrs. Leach and Greene, and has used it in six cases of phthisis in different stages (one case with an unmistakable cavity), in one case of pneumonia, and in two healthy persons. These cases do not, of course, form a sufficient basis for final generalization; but the impression thus far produced is that the difficulty which is frequently met with in obtaining physical signs in the earliest stages of phthisis, will be but very little, if at all, obviated by the use of the resonator.]

*Inhalation of Compressed Air.* — Sommerbrodt,<sup>1</sup> after extended investigation, in which the sphygmograph was repeatedly used, arrives at the following conclusions: —

(1.) The blood pressure in the systemic circuit rises during the inspiration and falls during the expiration of compressed air.

(2.) The amount of blood is diminished in the pulmonary circuit and increased in the systemic, especially in the veins, beginning a few heart-beats after the inhalation has been commenced, and continuing as long as it is continued.

(3.) After ceasing the inhalation the blood gradually resumes its usual distribution, but the changes mentioned in 1 disappear immediately.

(4.) While inhalation is going on the cardiac contractions are more frequent and more powerful, and continue to be so for some time after inhalation has been stopped.

These conclusions confirm the views of Waldenburg as to the indications for and against the use of this method of treatment. According to Sommerbrodt a means is thus placed at our disposal for exercising the heart like any voluntary muscle, and assisting it in its efforts at compensation in valvular and other lesions.

<sup>1</sup> Deutsches Archiv für klinische Medicin. October, 1876.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

JANUARY 1, 1877. *Hip Disease.* — DR. C. P. PUTNAM reported two cases of hip disease which came early under treatment and ended in recovery without deformity.

The first patient was a boy fourteen months old, in whom the symptoms had been very well marked for two weeks. There was excessive spasm of the muscles, making it impossible to place the limb in position at the outset. It was treated with immobilization of the joint, by means of a plain wooden splint fastened to the body and to the affected extremity by sticking-plaster and bandages. This was applied several times in the course of two or three months, since when, for several years, the symptoms have not returned.

The second patient was a girl four years old, who came under treatment four days after the first symptoms appeared. Continuous rest in bed, without apparatus, caused the symptoms very nearly to disappear in the course of a week, and no symptoms could be detected a few days later. At the end of seven weeks she was allowed to walk a few steps every day, and for two weeks there was no difficulty; then she escaped from her nurse and ran about for a while, when the symptoms again returned, though they disappeared after a few days of rest in bed. A Taylor's long splint was then applied for two weeks, with as much extension as the patient would bear, and then the splint invented by Taylor, called the "Dow's" splint, which was exhibited. This had been worn so far for six months, during the whole of which time the patient had run about freely during a large part of each day. The splint may be described as an ischiatic crutch with a joint at the knee, which joint, being behind the line of support, becomes immovable when the leg is straight. The patient's foot does not touch the sole of her boot, to which the brace is attached, or touches it at the toe only, the heel reaching only within half an inch or more of the sole. Although the toe is used to support part of the weight in walking, the main part of the weight and every severe shock is transmitted by the splint to the ischium. In a more severe case the splint could be so long that not even the toe could touch. The theory of this splint is to allow the joint to perform its natural functions as far as is compatible with not increasing the disease, and by means of it a patient is enabled to take almost as much exercise as in health.

DR. T. B. CURTIS asked Dr. Putnam how long he would consider it necessary that such a splint should be worn.

DR. PUTNAM said this one would be worn eight months, in accordance with Dr. Taylor's advice; he had no other reason for deciding on this period: probably it must in each case be a matter of trial, and it would be advisable to keep up the treatment for the sake of security much longer than seemed necessary in view of the absence of symptoms. In this case he had not expected to see the symptoms return for a slight cause, after they had disappeared with rest and had been absent for fully seven weeks, as they did in the beginning before any splints had been used.

DR. DWIGHT remarked that Adams, of London, said he expected to obtain a perfect cure in those cases which came under his treatment in the early stage of the disease.

DR. FIFIELD thought the statement of Adams rash, particularly when the disease was of the strumous form and the bone affected.

DR. T. B. CURTIS remarked that the results obtained by American surgeons in the treatment of hip disease appear to differ very considerably from the results of foreign methods of treatment. Thus, in France the usual treatment is that taught by Bonnet, of Lyons, consisting in immobility of the limb in a favorable position, the long wire *gouttière* of Bonnet being used during the earlier period of the disease, and succeeded during convalescence by some form of stiff bandage prepared with dextrine, plaster of Paris, or silicate of potassa. As regards the results so obtained, many French surgeons look upon ankylosis as a favorable termination, and as the object to be sought by the surgeon. A termination by ankylosis is regarded as a cure. E. Boeckel, of Strasburg, in a paper on the arrest of growth which follows coxalgia when contracted early in life, asserts that ankylosis is the inevitable termination of every case of *confirmed* coxalgia, whether with or without suppuration. He adds that he defies any one to show him a single case of this disease cured without ankylosis, unless luxation has ensued. Valette, of Lyons, says that to obtain ankylosis in a good position of the limb should be the sole aim of the surgeon in a case of confirmed coxalgia. Such a result is all the more unsatisfactory since it has been shown by Boeckel that ankylosis, when contracted early in life, almost inevitably entails a future arrest of growth of the diseased limb, amounting in some cases to several inches, and materially lessening the usefulness of the limb. American surgeons, on the other hand, treating hip disease by extension from the first moment of its appearance, not unfrequently obtain complete cures, with entire restoration of the mobility of the joint.

Dr. Curtis suggested that the striking diversity of results claimed here and in France may be dependent in part upon different habits of diagnosis or a different use of words. The French restrict the name of coxalgia to the strumous arthritis of the hip-joint, with gelatinous degeneration of the soft tissues, frequently accompanied or followed by caries and suppuration. This condition they differentiate, not only in nosology, but when possible clinically, from the various simple affections, inflammatory and traumatic, of the hip-joint; cases of the lesser, simple lesions, when successfully treated with entire restoration of all the functions of the joint and limb, are not claimed as examples of cured coxalgia. Hence the view commonly taken abroad of the ætiology of coxalgia, which is held to be mainly of constitutional origin. This comparatively limited application of the term coxalgia accounts partly for the relative failure of the French methods of treatment.

In this country, on the other hand, where "hip disease" is asserted to be more often traumatic than constitutional in its origin, a considerable proportion of cases is claimed to be completely cured. To establish the diagnosis of hip disease very delicate methods of examination have been devised, by which the slightest damage to the hip-joint may be detected in its earliest stage: for instance, Taylor's "slow and reluctant relaxation of the muscles in short and

gentle movements," which, he says, is diagnostic of incipient disease in the joint; also the method advocated by Sayre, which consists in laying the patient flat upon his back on a table, with the spinous processes of the vertebræ in contact with the supporting surface, the thighs being then extended until the popliteal spaces touch the table. By these and other analogous methods, signs of injury or inflammation are elicited, which are held to justify the diagnosis of hip disease, and to indicate prolonged treatment by extension. In a certain proportion of such cases the results so obtained are of course eminently satisfactory. Now, without questioning the wisdom of this course, nor the superiority of Taylor's splint, which is undoubtedly an admirable instrument, it must be admitted that the readiness with which "hip-disease" is diagnosed by many of our surgeons accounts to a certain extent for the facility with which their complete cures are obtained. In comparing the results of treatment at home and abroad, we should bear in mind that our term "hip disease" is not synonymous with the "coxalgia" of foreign writers, inasmuch as the former seems to be so used as to include almost all the traumatic and inflammatory affections of the joint, fractures and dislocations excepted, while the latter is intended to be strictly limited to the strumous arthritis of the hip.

DR. BRADFORD mentioned the following method as used by some of the New York specialists in forming the diagnosis of hip disease. The patient is placed upon his belly, the knee or thigh is grasped by the physician and moved in all directions. The physician's free hand is placed flat upon the sacrum, and any tilting of the pelvis, if present, is felt at once, and is more readily detected than when the child lies on his back and the knee is forced down.

DR. J. J. PUTNAM mentioned one case of hip disease treated at the Samaritan Hospital by rest alone, which showed marked improvement, but as soon as motion was allowed the pain, tenderness, and swelling returned.

DR. HILDRETH thought that not so much extension was required as rest; extension sufficient only to overcome the muscular contraction. He thought children were usually allowed too much freedom. With reference to the use of Dr. Sayre's short splint, which both Drs. Tarbell and Curtis disapproved of, Dr. Hildreth said that in one case, after the child had worn it a few weeks, relaxation of the ligaments of the knee-joint ensued so as almost to disable the child, and the splint had to be dispensed with.

DR. C. P. PUTNAM showed an arrangement lately made use of in New York by Drs. Taylor and Chrystie, by which a sort of crutch is attached to a hip splint and carried over to the opposite side of the perinæum. This apparatus may be used in any case to divide the weight between the two sides, but is mostly used in cases of old disease where it is desirable to correct adduction of the diseased hip.

*Varicocele in the Female.* — DR. DWIGHT referred to the close connection existing between the renal and ovarian veins on the left side, as shown by him recently upon the cadaver by colored injection of the system of the vena cava inferior.<sup>1</sup>

DR. FITZ said he had noticed a similar condition affecting the left side, in an autopsy made two years ago. This was the only instance in which he had observed this appearance, so he thought it must be very rare.

<sup>1</sup> Vide JOURNAL, February 15, 1877.

DR. CURTIS mentioned that a varicose condition of the utero-ovarian veins, analogous to the varicocele of the male, was described by Richet in his treatise of surgical anatomy, the description there given being partly quoted from a paper by Devalz.

DR. BAKER thought the investigations of Dr. Dwight of special interest as perhaps explaining the comparative frequency of prolapse of the ovary on the left side.

*Lead Poisoning.* — DR. STEVENS spoke of two families who had suffered from lead poisoning arising from the presence of sugar of lead, which had been added to a barrel of cider by mistake instead of alum. The first marked symptom was colic, coming on five weeks after commencing the use of the cider. The subsequent symptoms were muscular weakness, vomiting, jaundice, extreme pallor, and colic in a severe form. Lead was found in the urine before any treatment had been given, and the amount doubled after the use of iodide of potash.

*Biliary Calculi (?)*. — DR. BOWDITCH reported the following case of a gentleman fifty-three years of age, apparently in perfect health, who, after lifting a heavy weight seven years ago, felt a sudden severe pain in the lumbar region, finally settling beneath the lower right ribs. The pain continued for eight hours, and was attended with nausea, but no vomiting. Since then he has had a similar attack every few weeks, coming on about eleven A. M., and continuing until seven P. M. He has never vomited but once, and then the pain instantly ceased. It ceased once again, suddenly, when he threw himself on to a sofa. When the attack commences the pain recurs at the same hour every day for three or four days. Dr. Bowditch asked the members of the society what they considered the diagnosis of the case to be.

DR. TARBELL remarked that in reading recently an article upon movable kidney, a case very similar to that reported by Dr. Bowditch was mentioned, where the pain was relieved by a sudden motion of the body.

DR. CURTIS said that movable kidney was very exceptional in the male.

DR. FITZ suggested one-sided renal calculus, or lumbar neuralgia, though in the former one would expect to find blood in the urine.

DR. BOWDITCH said the patient had never observed anything abnormal, either in the urine or fecal matter. Three attending physicians had diagnosed biliary calculi; a fourth, neuralgia; he had treated him for the former disease, advising a lotion of nitro-muriatic acid every morning, and the juice of two lemons on the first appearance of the pain.

JANUARY 15, 1877. *Dysentery treated with Large Doses of Ipecac.* — DR. FORSTER read a paper upon this subject.<sup>1</sup>

DR. BIXBY asked Dr. Forster what he considered the action of the drug to be when thus administered.

DR. FORSTER replied that he thought it acted as a stimulant.

DR. RICHARDSON inquired if it were usually vomited when given in such large doses.

DR. FORSTER answered that in a tabulated report of fifty-four cases treated by this method, vomiting took place in only twelve cases.

<sup>1</sup> See JOURNAL, February 22, 1877.

DR. C. E. STEDMAN referred to a paper published by Dr. Flint, in the *New York Medical Journal* of last year, wherein he speaks of dysentery as a self-limited disease, usually continuing about seven days. Dr. Stedman said he had been in the habit of treating dysentery with a combination of morphia and sulphate of soda, and had usually found it to quiet the pain and change the character of the discharges after one or two doses. By this treatment the severest cases, in forty-eight hours, seemed to lose their virulence. A short time since he was called to a child between two and three years of age, suffering from dysentery. Starch and laudanum injections, continued for two days, exerted no beneficial effect; after taking one dose of sulphate of soda, three grains, and sulphate of morphia, one thirty-second of a grain, the patient was relieved.

DR. HILDRETH remarked that Dr. Hooker, of Cambridge, used to say that cases of dysentery treated with a combination of sulphate of soda and magnesia with opium would always recover. Dr. Wyman, on the other hand, preferred to treat his cases with opium preceded by purgatives. Dr. Hildreth said he had treated four cases with large doses of ipecac, but it was retained in the first case only. He thought those cases in India treated so successfully by this method were of a different type from those we meet with here; his own idea was that the disease is self limited, and that some cases will recover and others die, irrespective of the treatment which may be used.

*Modification of the Ophthalmoscope.* — DR. WADSWORTH showed a modification of the ophthalmoscope, which is described at length in the *JOURNAL*, number 4, volume xvi., page 105.

*Bronchitis depending on a Gouty Diathesis.* — DR. HILDRETH reported the following case: A gentleman, thirty years of age, a high liver, had a severe attack of gout two years ago, and was treated with colchicum. Previously to that he had suffered from bronchitis during the winter season, though free from it summers. Last fall he had his usual attack of bronchitis, attended with high fever and a considerable asthmatic element; the urine was loaded with urates. Colchicum gave him relief within twenty-four hours, but when this was omitted the disease would return, and was in no way affected by the remedies usually prescribed for bronchitis.

A second case of bronchitis in a gouty subject was also relieved by colchicum, but as the patient could not bear this well, lithia was prescribed with equally beneficial results.

DR. FOLSOM referred to three cases of bronchitis complicating rheumatism, which yielded readily to rheumatic remedies. In one case the expectoration was different from what we usually see in bronchitis, being very viscid, extremely white, and remarkably tenacious. He thought this condition analogous to that we sometimes see in inflammation of the fibrous tissues of the joints, where cerebral complications ensue and are relieved by irritating applications to the affected joints.

FEBRUARY 5, 1877. *Thrombus of the Cerebral Sinuses.* — DR. J. O. GREEN read a paper upon this subject.

DR. JEFFRIES asked to what extent the swelling in the neck usually takes place.



DR. GREEN answered that it began just below the mastoid and extended downwards and backwards. It is a brawny, hard swelling, resembling that of phlegmasia alba dolens.

DR. HAY asked if the swelling could be mistaken for erysipelas, and also if you would find pus in a thrombus.

DR. GREEN replied that it is not generally an inflammation; when it is that, it arises from the formation of an abscess. With reference to a purulent formation, Dr. Green thought the degeneration of the thrombus would excite phlebitis, and so give rise to pus. The treatment was entirely symptomatic.

*Ulceration of the Gall-Bladder.* — DR. CHADWICK read the following history, as sent him by Dr. E. P. Hurd, of Newburyport, of a case of inflammation of the gall-bladder resulting in ulceration, and showed the specimen: The patient, an Irishwoman, fifty-six years old, had been for many years a spirit-drinker. She had been in poor health for many months, complaining of loss of appetite, constipation, vague pains in the abdomen, and general *malaise*. On Sunday noon, December 10th, Dr. Hurd was called. The patient had been in pain since the preceding night, the pain coming on suddenly, as if something had ruptured. At the time of the visit she was sitting up, with her hands pressed over the bowels, unable, as she said, to lie down, and apparently in great agony. No febrile action, and no soreness on pressure. Pulse 80. Three hypodermic injections of morphia, one half grain each, at intervals of fifteen minutes, brought a little relief. The pain continued very severe at times until her death, one week later. There was obstinate vomiting from the first, attended with constipation. Her death seemed to result from exhaustion rather than from violent inflammation. At no time did the bowels become hard and tense, yet there was considerable tenderness, especially on the right side, and some jaundice.

Post-mortem examination showed no effusion in the abdominal cavity; parietal peritoneum inflamed, with lymph patches for a space as large as the hands, just to the right of the umbilicus; omentum and mesentery congested; mesenteric glands injected; external appearance of stomach and intestines healthy; mucous membrane of the stomach thickened and inflamed in its whole extent, and the interior of the stomach full of yellowish, puriform matter, the same in appearance as that in the gall-bladder, soon to be described; duodenum inflamed and containing the same morbid material.

On the visceral peritoneum, two inches below the edge of the liver and just beneath the transverse colon, was an oblong sac full of yellowish pus, and continuous with the neck of the gall-bladder above. This sac was formed of viscid lymph, just tenacious enough to circumscribe the pus. The left lobe of the liver was healthy; the right was enlarged and very much softened, and so far disintegrated that the acini could not be seen. No imperviousness of the arteries, veins, or ducts could be discovered. About two inches above the neck of the gall-bladder was seen a slit in the peritoneal investment, from which was exuding the puriform, bilious fluid mentioned above. On opening the gall-bladder, it was seen to be contracted, thickened, its mucous membrane injected, and of a dark-brown color, with an ulcer the size of a split pea in its posterior wall; this ulcer had direct communication with the perforation in the serous coat

above described. Between the slit and the ulcer was a pouch-like dilatation secreting pus. No gall-stones were found. It was believed to be a case of idiopathic inflammation of the gall-bladder, ending in ulceration.

Dr. Chadwick remarked that in one of the recent London journals, Dr. Mouders recommends operation where gall-stones can be felt. Dr. Chadwick thought that an operation might also be performed in case of an abscess as well.

Dr. J. G. BLAKE mentioned the case of a large distended gall-bladder attended with some jaundice and hepatic enlargement. He asked the society as to the advisability of aspirating the tumor.

Dr. CHADWICK thought it quite safe to put an aspirator into any organ; whether in this case it would do any permanent good or not was doubtful.

Dr. INGALLS said he should not hesitate to use the aspirator in the hope of affording relief. He had aspirated nearly every organ without any ill results.

Dr. BLAKE remarked that it had been a question with him whether the gall would flow through a needle so small as not to occasion any subsequent danger.

Dr. CHADWICK thought that gall would flow through any trocar or needle that pus would.

(To be continued.)

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### SMITH'S DISEASES OF CHILDREN.<sup>1</sup>

THE present volume is made up of a series of articles upon the principal diseases of the chest and upon acute tuberculosis as affecting the head, chest, and abdomen, which have already appeared in the columns of the *Medical Times and Gazette*, and are now republished in book form after careful revision and with the addition of some new cases.

The introductory chapter contains general remarks upon peculiarities of disease in childhood, hints as to the method of examination of children, and some advice on the subject of infant therapeutics. In the following chapters are articles upon collapse of the lung, croupous pneumonia, pleurisy, acute catarrhal pneumonia, chronic catarrhal pneumonia, fibroid induration of the lung, acute general tuberculosis, tubercular meningitis, and tubercular peritonitis. Of particular interest in these articles is the study of the symptomatology and of the course of the different diseases, showing much original observation. As would be expected, a large share of attention falls to the description of the physical signs; but only their proper and just place is assigned to them as a means of diagnosis, and more than once we are reminded how essential it is for the avoidance of error to take into account all the symptoms as well as the history of the case.

Cases, forty-one in all, are interspersed through the text for purposes of illustration, and comments are added at the end of each case showing the process of reasoning by which the diagnosis is made. It is very possible that in a few of the cases the author will fail to carry conviction to the minds of all his readers as to the correctness of some of his conclusions; but this is to be

<sup>1</sup> *Clinical Studies in Diseases of Children*. By EUSTACE SMITH, M. D. Lond. Published by J. and A. Churchill, New Burlington Street, London. 1876.

expected when we remember the great difficulties that are inherent to the subject.

The chapters upon chronic catarrhal pneumonia and upon fibroid induration of the lung should be especially mentioned as presenting in a more elaborate manner than is to be found in text-books upon children's diseases the important part played by these affections in the chronic destructive processes of the lungs.

In the present advanced state of knowledge of the nature and import of physical signs it is to be regretted that there should not be generally adopted a uniform nomenclature of the different sounds. The author frequently manufactures names, so to speak. This is partly unavoidable we are willing to admit; and as a rule the terms used are so expressive that there would hardly be any misunderstanding. In some cases, however, we think that they are open to criticism. For example: "tubular percussion" is an expression often met with, apparently meaning a tympanitic quality of the percussion note. Tubular respiration and bronchial respiration are used without having an identical meaning, for we read in the chapter on pleurisy (page 72): "It often becomes loud and bronchial, and sometimes assumes a tubular character which is indistinguishable from the tubular respiration of pneumonia."

The signification of bronchial respiration is so great when heard that, in order to avoid wrong conclusions, one must be sure of its existence and must not confound other sounds with it. For this reason we feel obliged to criticise expressions occasionally met with, such as, "slightly bronchial" (page 126), "rather bronchial" (page 153).

But a comparatively small space is devoted to the subject of treatment; and in the report of the different cases it is rarely alluded to. In the general remarks, however, at the end of the separate chapters, we find given the author's ideas as to the treatment of each disease, and they are well worth reading. We confess to some surprise at the statement (page 107) that, in performing paracentesis of the chest, "the aspirator has little advantage over the ordinary canula and trochar." Arsenic is a drug often employed by the author in the treatment of chronic catarrhal pneumonia, "given alone or in combination with quinine, to reduce the temperature when the occurrence of pyrexia announces that irritation is set up in the system by the presence of the pulmonary deposit." It is also said to "best control the distressing sickness which often occurs at the end of a paroxysmal cough, combined with pernitrate of iron and small quantities of morphia." For night sweats belladonna is given, and "in prescribing this medicine the remarkable tolerance of children for this drug must not be forgotten. For a child four years old the night draught should not contain less than twenty drops of the tincture, B. P." The tolerance of children for arsenic is also to be remembered, "and between the ages of five or six and twelve it may be given to them in larger doses than are readily borne by the adult."

The book has been very carefully written; and the author has succeeded, by his admirable method of reporting the cases, in making them an important feature of the work, and in causing them to really serve the purpose for which they were intended.

The publishers have done their work well, and there is a remarkable freedom from typographical errors.

## THE MARINE HOSPITAL SERVICE.

THE report for the fiscal year 1875, by Dr. John M. Woodworth, the supervising surgeon-general, is not only an interesting document but a credit to its author and his assistants, and a proof of the great value of the service. This, it must be understood, is not only for the benefit of seamen in the employ of the government, but, to quote from the report, "the term 'seaman,' hitherto undefined in the statutes, is, by the late congress, made to include, so far as this service is concerned, any person employed on board in the care, preservation, or navigation of any vessel, or in the service, on board, of those engaged in such care, preservation, or navigation. The wisdom of this provision is obvious, it being impracticable to discriminate cooks, porters, or waiters from seamen when application is made for relief." Disabled or sick seamen of any foreign vessel are admitted on payment of a sum sufficient to cover the actual cost of relief exclusive of medical attendance and quarters.

Appended to the report are some very interesting papers on yellow fever at some of the Southern ports during 1875, and essays on syphilis and chancre, consumption, scurvy, the life-saving service, the seton in paralysis and epilepsy, and ship's medicine chests. Venereal diseases appear so prominently in the records, and are so important in their immediate and remote effects, that it has been justly thought desirable to publish a paper that shall serve as a basis for classification. Dr. Woodworth remarks that "any conclusions hereafter arrived at respecting syphilis among seamen cannot be expected to stand unless the statistics are absolutely correct and sufficiently specific."

The paper by Dr. John Vansant is carefully prepared, and while it offers nothing new presents little for criticism. The tables comparing and contrasting syphilis and chancre are very good. We confess we think it a waste of time to consider the views of Hippocrates, Galen, and other ancients, or to discuss the lamentations of David and Job in the light of clinical histories. That venereal disease is very prevalent to-day is enough for us. The part of the paper which we like best is that on prophylaxis. "The great objection," says Dr. Vansant, "met with in effecting legislative enactment for the control of this disease comes, paradoxical as it may appear, from the moral element of the communities where its ravages are most severely felt. 'Licensing prostitution' is the cry from the pulpit, and many of the newspapers of the day oppose the only means yet devised in this country for its control.

"But another plan is herewith suggested, — one which, it is believed, the moral element will join hands in encouraging: —

"(1.) Prevent the introduction of venereal diseases from abroad by so amending existing quarantine regulations as to include the physical examination of seamen arriving from foreign ports, — detaining the infected in hospitals designated for that purpose;

"(2.) Prevent the shipment of seamen suffering with venereal diseases (or other disability rendering them unfit for duty) by requiring the physical examination of such as are bound to foreign ports, — with authority to send the diseased or disabled to hospital;

"(3.) Prevent local infection by establishing at our larger ports and inland

cities free dispensaries for the treatment of venereal diseases, and for the free examination of those who may have been 'exposed' to them; and, finally,

"(4.) Arrest and detain in hospital until relieved all persons who, not availing themselves of the free dispensaries, continue to spread venereal diseases.

"Such regulations would be beneficial alike to all classes, by *excluding foreign importation*, and diminishing private as well as public infection."

Another interesting paper is that of Dr. Robert D. Murray on Ship's Medicine Chests. It is enough to make one shudder to think of the drugs they contain to be dispensed at the discretion of the master, assisted by some printed "directions." It is consoling to learn that the drugs are often in very bad condition, and that there is a tendency — we think a very natural one — among sailors to prefer "the heroic expectant treatment of being 'let alone.'" Dr. Murray and Dr. Woodworth agree in recommending a reform in medicine chests, and also the publication of a small, clear, and practical guide book, a chart by which the master will lay his course through the depths and shoals of the practice of medicine. We wish it were practicable, but suppose it is not, to oblige vessels of a certain size to carry a pilot for this kind of navigation in the shape of a doctor.

The most striking feature of the report, however, is not its scientific treatises nor its suggestions, good as they are, but the record it presents of a vast amount of suffering which has been relieved, which must commend it to every friend of humanity in general and of the seaman in particular.

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### MEDICAL NOTES.

— At a recent meeting of the Medical Society of Marburg, Dr. Külz reported a case of diabetes mellitus by which he proved that there is at times difficulty in establishing a diagnosis. In all doubtful cases he recommends the following method of procedure: the patient is to be made to empty the bladder, and then to eat a large quantity of white bread at once; during four hours the patient is to keep perfectly still, the urine is to be passed every hour after eating the bread up to the fourth hour, when the experiment may cease and the patient may resume his ordinary mode of life. In the examination of the samples of urine the chief attention is to be devoted to that passed at the end of the second hour after partaking of the bread. In twelve persons affected with the light form of diabetes the urine of all was found to contain most sugar in the second hour after eating bread. Külz has already published experimental proof of the fact that forced muscular exertion may reduce the excretion of sugar in mild as well as in severe cases of diabetes, though at the same time he said that this favorable result did not always follow. Eight cases are known to him in which methodical experiments have shown the usefulness of this treatment. In none of these cases could vicarious excretion of sugar through the sweat be proved. Mere exercise in a closed room has no beneficial effect, or only a slight one; mountain-climbing, according to his experience, is the most efficacious. He finished with the exhortation to encourage "forced marches" in the open air in diabetic patients who are capable of it and disposed to try the experiment, more especially if a few preliminary trials show

that the amount of excreted sugar is reduced thereby, rather than to resort to the use of medicines, a practice which he considers as at least questionable.

— *The Lancet* of February 24, 1877, calls attention to a communication recently made by Dr. Onimus to the *Société de Médecine*, of Paris, on the prevalent and pernicious fashion of high and narrow heels to women's boots. The heel of the boot is not only high, but narrow and inclined forwards, so that the distance between the heel and the point of the foot is lessened, and the foot appears smaller than it really is, — a very desirable effect in the eyes of the wearers of high heels. The effect of the oblique position of the foot is to remove the weight of the body from its natural support — the prominence of the os calcis — and to project it forwards on to the plantar arch. Hence arise acute pain and tenderness in the sole of the foot. The forced depression of the anterior part of the foot causes a painful displacement of the articular surfaces, the toes instead of the heel first touch the ground, and the walk is clumsy and heavy. The toes become permanently flexed and pressed together. In consequence of the height of the heel the body has a tendency forwards, and the muscles of the calf have to overact to correct this tendency, and are in a state of painful contraction. Even the muscles of the thigh may suffer. In cases of nervous temperaments the pain and irritation have produced general nervous symptoms of hysterical character. The mode of carriage of the body is influenced by the position of the feet; the centre of gravity must be kept in the line of the base of support, hence the pelvis is tilted forwards, and ante flexion of the uterus is easily produced when high-heeled boots are worn.

— The following case we take from a recent exchange. A young man was brought into the Strasburg hospital at the end of last September in a light stupor and constantly complaining of severe headache; the temperature continued elevated, the pulse accelerated; there were no other symptoms. The patient died at the end of a month. At that time a hard body could be felt under the right eye; it was considered to be a tumor, and the cause of death. The autopsy showed conclusively that a carious lower molar tooth was the cause of death, in that it had caused inflammation in the jaw, which had extended into the sphenomaxillary fossa, from thence into the orbit and into the middle fossa of the cranium, and there had caused a considerable necrosis, which had led to pyæmia. Three abscesses were found in the brain and one in the muscular wall of the heart. The patient had never complained of toothache.

— It is stated that during the week ending February 17th, the sun was above the horizon 69.3 hours, but in London his light was intercepted, and he shone only 9.3 hours: four days not at all, Sunday 5.3 hours, Friday 3.5 hours, and Saturday half an hour.

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## BOSTON CITY HOSPITAL.

SURGICAL CASE OF DR. CHEEVER.

[REPORTED BY GEORGE W. GAY, M. D.]

*Strangulated Inguinal Hernia; Constriction above Internal Ring; Operation; Recovery.* — J. R., aged twenty-six years, a stone-mason, first became aware of the presence of a rupture two years ago, after heavy lifting. He

had never worn a truss, but had simply reduced the hernia on going to bed, and allowed it to come down into the scrotum during the day. It had always been reducible until Saturday morning, February 10, 1877, when he was attacked with pain in the region of the rupture, which compelled him to stop work and go home.

He ate a hearty dinner, walked two miles during the afternoon, and in the evening the pain had greatly increased, and vomiting had set in. A physician was called, who made an attempt to reduce the rupture by taxis, but without success. Pain and vomiting persisted throughout the night, all day Sunday, and until Monday noon, when the patient entered the hospital in the following condition: he was restless, and evidently suffering greatly; expression anxious; pulse quick and feeble; tongue brown and dry; abdomen somewhat swollen and tender; and the skin congested. His breath had a fecal odor, and he frequently vomited a yellowish, bad-smelling substance. A tense, scrotal tumor extended up into the inguinal canal on the left side.

The patient having been partially etherized, Dr. Cheever performed herniotomy fifty-two hours after symptoms of strangulation appeared. On opening the sac two or three ounces of bloody serum escaped, leaving it empty so far as its cavity could be seen. The inguinal canal was then laid open, and a knuckle of small intestine presented itself to view at the internal ring. The constriction was situated above the ring in the neck of the sac, which was attached to the abdominal wall. By gently drawing down the bowel the constricting band was reached and divided and the contents of the sac set free, the sac itself being irreducible. The wound was closed with silk sutures, and a firm compress and double spica bandage applied. Opium and stimulants were ordered *pro re natâ*.

The strangulated bowel was of a dark-maroon color, devoid of its glistening appearance, and covered with a layer of lymph at the point of constriction. A slight rupture of the peritoneal coat was seen at the fundus of the tumor.

The vomiting ceased early the next morning. Three hours after the operation the bowels moved, and the next day there were several bloody stools attended with pain in the abdomen, and some tympanites. These symptoms passed off in a few days with the exception of the diarrhœa, which persisted for nearly a fortnight, but finally ceased.

Six days after the operation there was retention of urine, requiring the use of a catheter, which was followed in a few hours by a purulent discharge from the urethra. There was no scalding on micturition. The cause of this discharge, which subsided in a few days, was not apparent.

A month after the operation the patient was walking about the ward with his wound nearly healed.

This patient was in such a wretched condition on entering the hospital that it was only with the greatest difficulty that his strength could be kept up until the strangulation was relieved. While being etherized his respiration ceased entirely for a few moments, and to all appearances he was dead. He finally rallied, however, under the persistent use of Sylvester's method, and the operation was performed without further etherization. Might not chloroform have proved fatal under similar circumstances?

The severity and long duration of the symptoms previous to the operation, as well as the alarming prostration at the time, the subsequent diarrhœa, and local peritonitis, all indicate the great danger this patient has undergone.

The case is also of interest from the fact that the place of constriction was at the mouth of the sac, above the internal ring. The main portion of the sac itself contained only serum, and of course the force used during taxis was exerted directly upon this fluid, and not upon the bowel. Undoubtedly the bowel was safer from the evils of overmuch manipulation than it would have been had it occupied its usual place in the sac.

Sir Astley Cooper's folio on hernia contains several illustrations of "strangulation in the sac."

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 14, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	502	24.23	27.46
Philadelphia	850,856	348	21.27	22.88
Brooklyn	527,830	202	19.90	24.31
Chicago	420,000	158	19.59	20.41
Boston	363,940	130	18.57	23.39
Providence	103,000	38	19.18	18.34
Worcester	52,977	20	19.63	22.00
Lowell	53,678	24	23.25	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370	12	12.39	22.04
Lawrence	37,626			23.32
Lynn	34,524	10	15.06	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	6	11.67	23.57

SUFFOLK DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at the rooms, 36 Temple Place, on Saturday evening, April 28th, at seven and a half o'clock. Election of officers. The following papers and cases will be read: —

Dr. J. R. Chadwick. A Few Practical Expedients in Gynæcology.

Dr. J. P. Ordway. The Treatment of Fistula in Ano.

Dr. John Homans. A Case of Ovariectomy.

Dr. A. P. Richardson. Public and Private Medical Institutions; their Uses and Abuses. Tea, etc., at nine o'clock.

A. L. MASON, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — A Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. III. No. 2. Hydrocèle. By E. D. Hayes Agnew, M. D.

The One Hundred and Seventh Annual Report of the State of the New York Hospital and the Bloomingdale Asylum for the Year 1876. New York. 1877.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1875. John M. Woodworth, M. D. Washington. 1876.

The Mortality of Surgical Operations in the Upper Lake States. By Edmund Andrews, A. M., M. D. Chicago. 1877.



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## THE RESPIRATORY BRACE: A NEW APPLIANCE DEVISED FOR THE RELIEF OF ORTHOPNŒA.<sup>1</sup>

BY GEORGE F. FRENCH, M. D., PORTLAND, ME.

**DIFFICULTY** of breathing so extreme as to require the erect posture, or orthopnœa, is a feature of various diseases, but all alike send the same dispatch to the nerve centres for more oxygen to aërate the blood. In some diseases, as in hysteria, the wires themselves are deranged, and the impression conveyed to the brain is exaggerated and fallacious; nevertheless the dispatch is believed at headquarters, and all the vital power of the heart and lungs, reinforced largely by the voluntary muscular system, is at once ordered to the rescue.

Difficulty of breathing is made worse by the recumbent posture, on account of the pressure of the abdominal viscera, which gravitate against and interfere with the respiratory movements of the diaphragm. The erect posture, then, is most favorable for perfect respiration, but I believe it will be conclusively proved by this paper that the recumbent position is not essential to the complete refreshment of the body. In health the advantage which would be gained in favor of respiration by the upright position is more than counterbalanced by the muscular power wasted in counteracting gravitation; but if an appliance could be devised which would maintain the body erect without the slightest muscular exertion, sleep would be as refreshing as in the usual recumbent position. The upright position long maintained is very wearisome and exhausting. The persistent holding of the body in any fixed position implies a proportionate expenditure of muscular power, and all active exertion superadded to this, such as we observe in every form of difficult breathing, is as much more exhausting as it is laborious and painful; and when we consider that orthopnœa is often so extreme as to preclude sleep or nourishment, we can hardly estimate the depression of vitality which must ensue. The respiratory muscles languish, the heart propels the blood feebly, the nutrition of the body is in the same degree slackened, and the disease which has given rise to the orthopnœa, finding less resistance, tightens its grip at the throat of Nature. To one who has observed the effect of prolonged orthopnœa in cases of asthma this is no fancy picture. One of the most prominent features of every such

<sup>1</sup> Read before the Cumberland County Medical Society, February 28, 1877.

case is exhaustion, and I believe I might add muscular exhaustion. The symptoms of non-aëration of the blood in asthma, as shown by the cyanotic countenance, do not manifest themselves till the muscles of respiration and circulation are exhausted; and the ill effects of severe attacks of asthma, such as the dilatation of the right side of the heart, the œdema of the extremities, and the debility that results from such a paralysis of all the vital forces is traceable largely to muscular exhaustion. Next in importance, then, to the removal of the cause of any disease is the support of those forces which most effectually resist the disease, a universal maxim in therapeutics. In the orthopnœa of asthma the greatest outlay of strength is in muscular exertion; the sufferer is conscious of this, and in every possible way economizes muscular movement. No avoidable word, look, or motion escapes him; that position is chosen which will carry on forced respiration with the least effort; the head is never moved when a turn of the eyeballs will answer, and the elbows are planted on the knees or table to secure an advantage in elevating the shoulders. Every means of abridging muscular effort in orthopnœa tends inevitably, then, to aërate the blood, to promote nutrition and sustain life. A most terrible source of exhaustion in orthopnœa is the loss of sleep; when the need of it becomes imperative, the sufferer nods first toward one side, then toward the other, which results in a waste of muscular effort to regain his equilibrium, — this harassing process being kept up for hours, to the utter exhaustion of the patient. If at such a time refreshing sleep could be secured, Nature might recruit her forces sufficiently to repel the attack or abridge its duration. The want of some means to diminish this waste of muscular strength and to afford sleep has long been a desideratum in the orthopnœa of asthma; any appliance to accomplish this must hold the patient not only in an upright posture, but in an attitude most favorable to forced respiration, which is one with the shoulders elevated, the arms raised from the sides, and the head kept from falling. The characteristic attitude of one suffering extremely from asthma will furnish us a model: the shoulders are raised high and kept elevated, in order to avoid the tiresome repetition of the act; the arms are withdrawn from the sides of the chest to permit the free lateral expansion of the thorax; and the head is thrown back that the air-passage may not be constricted.

The appliance here exhibited is so simple as hardly to need any description. It consists of a cross-bar, from the extremities of which hang two loops of strong elastic webbing for the support of the shoulders. The broad band encircling the head is steadied by guys stretching across on both sides to the upright elastic supports. The apparatus is suspended by a pulley or ring from the ceiling.

Figure 1<sup>1</sup> represents a patient resting with the brace applied under the shoulders. Whenever from the weight or helplessness of the patient, or from the tedious duration of the case, the circulation in the arms is impeded, the support should be afforded by the elbows, as in



(FIGURE 1.)



(FIGURE 2.)

Figure 2, in which the entire pressure comes upon the outside of the fore-arm. Usually, however, the degree of pressure under the arms requisite to sustain a person who is sitting is insufficient to interfere with the circulation.

The merits of this appliance do not hang on theoretical considerations alone; in a modified form, less complete than the present, I have used it in a variety of cases for more than a year. It invariably affords relief, and is incapable of doing harm. It is invaluable in many chronic diseases not attended with dyspnœa, affording a patient who is hardly strong enough to be got out of bed an opportunity to rest in an upright position without exertion, and gives the nurse every facility for rubbing the back or dressing a bedsore. Its value is manifest in those diseases in which it is desirable to *counteract the ill effects of hypostatic hyperæmia* by friction and change of posture. Its adaptability to the treatment of *spinal disease* is obvious; at the present time I have a little patient resting in it who is unable to wear the ordinary spinal brace.

It would be an inestimable comfort as an attachment to the field ambulance or any vehicle used for the conveyance of the sick or wounded. But its most signal value is in the *orthopnœa of asthma*; in this disease,

<sup>1</sup> Russell and Richardson, Designers and Engravers, 194 Washington Street, near State Street, Boston.

where emphysema and dilatation of the right side of the heart have supervened, the paroxysms are not susceptible of sudden interruption, but run a definite course, the severity and duration of which can be controlled by suitable remedies. But those remedies which most effectually subdue the asthmatic spasm at the same time induce sleep, and to put a patient to sleep who can breathe only in the upright position is obviously a hazardous procedure. Persistent orthopnœa always contra-indicates the free use of narcotics, because the somnolent state is unfavorable to efficient respiration. To enable an asthmatic, then, to sleep with perfect comfort in an upright position not only recruits the sufferer's strength, but *permits the administration of curative remedies otherwise dangerous.*

This apparatus for orthopnœa renders sleep easy, safe, and compatible with the most efficient respiration. It saves and turns against the disease the muscular strength usually wasted. By affording the system the refreshment of sleep the vital current does not ebb, but assimilation and nutrition go on unchecked; the state of the general health being kept unimpaired, the disease is not reinforced by the usual ill effects which it produces in the shape of non-aërated, impoverished blood, inanition, and nervous debility. The vital force thus saved always averts a hard struggle, and gives to nature a speedier victory.

In conclusion, I will cite but a single case in illustration. Mr. D., aged forty-five, physically well endowed, has been an intense sufferer from asthma for more than twenty years. Up to within two years the attacks have been steadily increasing in frequency and severity. Usually as the system grows weaker the inroads of disease become more terrible. The less the resistance the more heavily falls the blow. An attack of asthma which a weak man would sink under a strong man may endure without exhaustion. Such has been the history of this case. When I first saw Mr. D. he was breathing very laboriously, even in a sitting posture; the face was livid and slightly œdematous, and the feet and ankles were considerably swollen. He had the usual expression and attitude of one in a severe paroxysm of asthma. The intensity of the orthopnœa permitted him to take neither food nor sleep; he had been thus spellbound nearly a week, and during the whole period had been unable to lie down. Drowsy from exhaustion and a state bordering on asphyxia, he would lurch backward and forward, and from side to side, as limp as a drunken man. One would hardly dare give a narcotic to a patient in such a condition; indeed, it was not needed, for no sooner was the "orthopnœa apparatus" applied than he was sound asleep, and sleeping in an attitude favorable to efficient respiration. In about two hours he awoke, seemed much easier, and took some nourishment, when he again fell into a comfortable sleep, from which he did not awake till we roused him to take food a second time. His recovery from that paroxysm

was particularly satisfactory, and yet not so much so as in subsequent attacks, when we have been able to afford the relief earlier, and also to administer suitable antispasmodic and hypnotic remedies which were no longer contra-indicated by the orthopnœa. Paroxysms which formerly lasted ten days or even a fortnight have been superseded by very much milder ones of three or four days' duration, during which time the patient has been able to sleep and take food. For the past seven months the attacks have not been attended with much exhaustion, and there has been no œdema as formerly. The paroxysms are not only milder, but are becoming more and more infrequent, and the state of the general health is unexceptionally good.

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### THE OBSTETRIC FORCEPS.<sup>1</sup>

BY DAVID HUNT, M. D.

THE obstetric forceps have accomplished as much as any one instrument toward lessening the sum of human suffering and saving human life; it is a reflection upon our profession that the history of an instrument of such importance should be so imperfectly given that the lesson which should be taught by it is almost wholly lost, for the true history of every great benefit conferred upon mankind contains in itself another good; here lies the importance of the history of medicine.

When Thomas Jefferson, at that time rector of the University of Virginia, laid upon the overburdened shoulders of Dunglison the duty of lecturing upon the history of medicine, he was perhaps wiser than he knew. That Dunglison could give us as a history of medicine but an imperfect little compend from Sprengel seems to me to be one of the great misfortunes which our science has suffered in America, for the new learning that has culminated in such a wide-spread interest in the study of the natural sciences, that has added so much of true dignity to the study of medicine, has received no adequate historical notice in this country as far as our profession is concerned.<sup>2</sup>

We cannot study the faults of our profession in the dazzling light which the science of to-day sheds upon medicine; it is only in the more subdued light of history that we can make a careful, minute inspection of medical polity. In such a light we shall find that as perfect as the science of to-day seems to us, errors do exist; that we are buffeted by chance and circumstance where we should be following a distinct, well-settled policy. To illustrate, let us consider the present

<sup>1</sup> Read before the Suffolk District Medical Society, February 24, 1877.

<sup>2</sup> Dunglison devotes but about fifty pages to the history of medicine since the fifteenth century; his work reminds one of the attempts at architecture that have adorned our principal cities since the beginning of the present century. The translation of Renouard is almost worthless as a history of medicine.

awakening in the study of embryology: if we had appreciated the labors of Von Baer, Huschke, Bischoff, Valentin, Wagner, Coste, and their collaborators, would there have been need of such an awakening? Should we have witnessed the useless battles that have been waged in settling complex points in histology, like the microscopic anatomy of the cochlea, for instance, when, as Böttcher has shown us, in this very part of histology, a philosophical method of studying the development would have soon furnished us with a store of pregnant facts?

This knowledge of medical history is of particular importance to us American practitioners. Why do we hear so much of the lack of scientific labor that characterizes American medicine? It is not that our practitioners do not work; it is not that they are not earnest; it is not that we are a young country, — we are as old as modern science, — but it is that, in the hurry and crudeness of our national life, we have forgotten the philosophy of medicine, a philosophy that history will enable us to make our own; without which we are slaves of modes of thought, with which we obtain a clear perception of what is to be done in medicine. No one knows the character of American practitioners if he doubts that with such a perception the work of reform in this respect would be well begun.

An accurate knowledge of medical history would have precluded the possibility of the statement that the forceps were known to the Arabians in the tenth century; yet since Smellie<sup>1</sup> first made this statement it has been repeated by most English and American writers upon the subject to the present time. It is astonishing that Smellie, writing so soon after Chapman<sup>2</sup> had described the fenestrated obstetric forceps, could have confused the toothed instruments, the description of which he quotes from Albucasis, and which, as Scanzoni<sup>3</sup> observes, must have caused the death of the child, with those life-saving instruments, the use of which he had done so much to base upon scientific principles. It is hardly less wonderful that Leishman<sup>4</sup> could have accepted his account without making such an obvious correction. Churchill<sup>5</sup> bases his statement that the Arabians knew of the forceps upon a quotation from Avicenna, found in Mulder's History of the Forceps, a work that I have been unable to obtain; it is more particularly to this quotation that I would call attention; it reads in Churchill as follows: —

"Oportet ut inveniatur obstetrix possibilitatem hujusmodi fœtus, quare subtiliter in extractione ejus paulatim; tunc si valet illud in eo, bene est; et si non liget eum cum margine panni et trahat eum subtiliter valde cum quibusdam attractionibus. Quod si illud

<sup>1</sup> A Treatise on the Theory and Practice of Midwifery. W. Smellie, M. D., London, 1779.

<sup>2</sup> A Treatise on the Improvement of Midwifery, second edition. 1735.

<sup>3</sup> Geburtskunde. Wien, 1855, page 798.

<sup>4</sup> A System of Midwifery. Philadelphia, Lea, 1873, page 449.

<sup>5</sup> On the Theory and Practice of Midwifery. Philadelphia, Blanchard and Lea, 1863, page 332.

non confert administrentur forcepes, et attrahatur<sup>1</sup> cum eis; si vero non confert illud extrahatur cum incisione, secundum quod facile fit et regatur regimine fœtus mortui.”

If a literal translation of this passage concerning the forceps were true, our “silver-tongued” orator might borrow a fact from medicine in favor of his hobby of lost arts, but I think that it can be proven that he would fare here as badly as he has elsewhere in historical investigation, and at last be obliged to stand upon his merit as a reformer.

Not long ago I happened upon this old edition of Avicenna, which was printed in 1486 by Peter Maufer gallici et socior: it is the classical translation of Gerhard, of Cremona; whatever it loses in exactitude by being deprived of the corrections of an Alpagus, or in clearness by its not containing the explanations of a Rinus, is to a certain extent made up by the marginal notes of some earnest student of the “prince of physicians;” he has underlined the word *forcepes* in the passage cited, and has written an explanatory word in the margin which being deciphered reads *tenaculum*.<sup>2</sup>

Now by turning back to the passage where Avicenna gives the *regimen fœtus mortui*,<sup>3</sup> we find that after speaking of the use of the “phlobotomos, aut cultellus spinosus, aut cultellus quo incidunt hemorrhoides nasi” in case a hydrocephalic head presents, he goes on to say, “Si autem fœtus ex magni capitis nam tunc oportet ut findatur craneum et capiatur cum tenaliis<sup>4</sup> quibus extrahunt dentes et ossa et extrahatur.”

Then follows the treatment *cum incisione*, which is nothing more or less than cutting the fœtus in pieces, and not, as some authors have supposed, merely opening the head. It seems to me that this is sufficient to do away with the idea that Avicenna, the ruler of medical thought for six hundred years, the teacher of so many of the teachers of Europe, the writer whose works were the chief of those Arabian writings which Daremberg says destroyed the autonomy of the school of Salerno,<sup>5</sup> — that such a well-known authority could have used and described our obstetric forceps and the knowledge of them could have been lost.

It is perfectly plain that no practitioner of the sixteenth century had an idea of the principle upon which Chamberlen’s invention was founded; namely, that of compressing the head of the child to render it smaller in certain diameters, at the same time saving its life. Rhodion,

<sup>1</sup> In my edition of Avicenna it reads “extrahatur.” In an edition of Thomas Bartholin’s *De Insolitis Partus Humani Viis*, published in 1740, he refers on page 143 to this very statement of Avicenna’s, namely, lib. iii., fen. xxi., tr. ii., cap. xxviii., but he had no idea of the forceps as we know them.

<sup>2</sup> The handwriting probably dates from the end of the fifteenth or the commencement of the sixteenth century.

<sup>3</sup> Lib. iii., fen. xxi., cap. xiv.

<sup>4</sup> I don’t know whether *tenaliis* is a barbarism or a misprint for *tenaculis*.

<sup>5</sup> Daremberg, *Histoire des Sciences médicales*. Paris, 1870, vol. i., page 265.

Reuff, Paré, Fabricius ab Aquapendente, Paracelsus, and the other writers of the day make no addition to the armentarium of their Arabian predecessors. Medical historians have often stated that Reuff rediscovered the toothed forceps, but Paracelsus figured them in 1530,<sup>1</sup> and Laurentius Phries<sup>2</sup> mentions a *zenglein* for extracting retained placenta. It is probable that obstetric instruments have been slowly yet steadily improved upon since the time of Celsus. The history that presents us with ideas of sudden revolutions in knowledge is always suspicious; it too often proves to be the fact that our ignorance causes the hiatus that seems to exist.

We all remember that it was thought, but a few years ago, that the present condition of the earth's surface was due to great convulsions by means of which mountains were thrown up, valleys excavated, and coast-lines changed; Lyell taught us that the daily action of lesser forces was accomplishing these immense changes under our very eyes; that which Lyell has taught us in inorganic nature Darwin is teaching us in organic nature, and what is true in both places applies as a general law, it seems to me, in the history of mankind.

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### A CASE OF SEVERE BURN.

BY GEO. C. MCCLEAN, M. D., SPRINGFIELD, MASS.

Mrs. W., thirty years of age, five weeks after confinement, was burned from her clothes taking fire. I was called immediately after the accident, on July 19, 1875, and found the burn covered the entire posterior surface of the body, from the inferior angles of the scapulæ to within about four inches of the heels, — besides a bad burn upon the left hand. I evacuated the numerous bullæ and dressed the injuries as rapidly as possible with the ordinary mixture of linseed-oil and lime-water. The patient was suffering little and there was great depression. Stimulants were given and ordered to be continued. Reaction took place and opiates were necessary. The dressings were kept moistened from the outside and were not removed for two days. The burn upon the back proved superficial, except six spots varying from one to three inches in diameter. Both buttocks and the entire backs of both legs sloughed deep into the muscles. Poultices of flaxseed meal and ground slippery elm were applied and changed twice daily.

The hot weather was very unfavorable, and the odor from the sloughs was extreme, notwithstanding the free use of carbolic acid, etc. To hasten matters, large pieces of degenerating tissue were removed with

<sup>1</sup> Der grossen Wundartzney. Franckfurt am Mayn, bey Weygand Han und Georg Raben, 1536.

<sup>2</sup> Spiegel der Artzney. Strasburg, 1529; first edition, 1512.



forceps and scissors. To add, if possible, to unfavorable conditions, maggots appeared in the sloughs. The patient was kept up with condensed nourishment and whisky with opium. She passed through a severe bronchitis immediately following the injury.

Incidentally I would mention two children five and six years of age, who were, in spite of repeated cautions, allowed in the room. They were seized simultaneously with diphtheria, the younger dying in forty-eight hours, and the other recovering.

The superficial burns healed readily as did the smaller ulcerated surfaces upon the hand and back. The sloughing process completed itself and the great surfaces began to granulate and heal, though very slowly. I endeavored repeatedly to establish grafts upon the granulations, but, probably on account of the very active suppuration and inability to bear any pressure, failed with the exception of a single point which grew.

Thus matters went tediously on, — a variety of dressings being tried, nothing very astringent being borne. A large part of the time a simple ointment of bees-wax and lard, mixed with a varying quantity of rosin, was used, nearly everything else making the woman scream for a considerable time after the application. With tonics and wine her appetite and general condition improved. Great care was required to prevent bed sores, lying constantly as she did upon her face.

On September 27th, ten weeks after the injury, I was summoned in great haste, and found her in a condition which, if not tetanic, certainly suggested tetanus. Pulse 160, respiration rapid, surface very hot (temperature not taken), pupils contracted, severe spasm of larynx and muscles of the throat, with very violent opisthotonos. These attacks recurred at first about once an hour. They began with a cry in a very high key, which was soon smothered; respiration would seem to cease and the opisthotonos to begin, each time causing considerable hæmorrhage from the granulations. She was put upon opium which was pushed rapidly to narcotism. The convulsions diminished in frequency, and finally ceased, the laryngeal trouble with the sensation of choking and smothering persisting the longest. On the fourth day all bad symptoms had vanished. All went well again for a time; the left leg not being burned so deeply healed the faster. November 20th she had a severe chill, with a pulse of 170, was delirious, and erysipelas, which proved to be phlegmonous, set in, located in the entire length of the left leg posteriorly. This too was passed without a fatal result. Again, in about four weeks, she had other bad symptoms, a chill, high pulse, and a very tender spot on the right side at the inferior border of liver. An internal abscess was feared, but the seemingly exhaustless vitality of this patient bore her out and nothing serious supervened. Another occurrence worthy of mention was the frequent rupture of weak

or newly formed blood-vessels into the substance of the granulations, forming elevations like bullæ, of the size of a half-dollar, very tense and painful for a time, then sloughing and leaving a perfectly defined excavation. There were from twenty to thirty of these at various times. I passed the knife through some to relieve the pressure; the contents were coagulated blood.

The general health of the patient now improved rapidly and all internal remedies were stopped. The healing went slowly on. In December the menses returned. The legs were very much swollen and œdematous, and I applied bandages daily for two weeks with good effect, but had to abandon them on account of the great pain it gave the woman to have them adjusted. As the ulcers became smaller, applications of nitrate of silver and strapping were of use. She began to stand for a few moments, but intense tingling and pricking sensations in the legs compelled her soon to lie down. As the circulation became better established this passed off, and she walked quite easily, and about the middle of January she was able to sit down for the first time since the accident.

The small remaining surfaces gradually healed and my attendance ceased for a month. I then found both legs very œdematous, with some pain. This yielded readily to bandaging. She had perfect freedom of motion, and no stiffness or trouble with the cicatrices; much of the new-formed tissue was soft and flexible. I have seen my patient from time to time, and her condition has constantly improved; she expresses herself as perfectly well, and walks with no inconvenience.

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## RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

*The Retina as a Photographic Plate.* — Boll<sup>1</sup> made the noteworthy discovery that the outer members of the rod-layer in vertebrates and the corresponding elements in cephalopods and arthropods are, during life, of a purple-red color. Since the color is bleached by exposure to light and restored when the animal remains in darkness, this objective change must constitute a part of the visual act. As the color was observed to fade rapidly after the death of the animal, Boll believed its existence to be dependent on a physiologically fresh condition of the retina.

Kühne<sup>2</sup> found, however, that a physiological state of the retina was not necessary for the persistence of the color; that even after death it

<sup>1</sup> Berichte der Berliner Akademie, November, 1876. Centralblatt für praktische Augenheilkunde, February, 1877.

<sup>2</sup> Berichte der natur-historische medizinische Vereins zu Heidelberg, January, 1877. Centrblatt für praktische Augenheilkunde, February, 1877.

was only bleached by exposure to light. Gaslight had less power to fade the color than daylight, sodium light much less than gaslight. The retina removed from the eye and bleached did not again assume a red color when kept in darkness. Experiments on frogs showed the power of restoring the red color to reside in the retinal epithelium, so long as the latter was still living. When the retina had been lifted up from the epithelium behind it and bleached, it resumed its color if replaced in contact with the epithelium in the dark.

With the knowledge of the above facts it seemed possible to produce an objective image on the retina which should have a certain permanency, and in this Kühne<sup>1</sup> succeeded. In order to effect this it was necessary that the constant reproduction of the red color (*sehpurpur*, Boll) which takes place during life should be stopped.

The head and eye of a rabbit were held in a fixed position, 1.5 m. distant from a hole thirty cm. square in the window-shutter, covered five minutes by a dark cloth, then exposed three minutes to the light from the hole. The animal was then beheaded, the eye enucleated by sodium light, opened, and immediately placed in a five per cent. solution of alum. Two minutes after death the second eye was exposed and treated in the same manner. The following morning the retinae were carefully isolated, and each showed on its posterior surface a light image, one mm. square, on a rosy-red ground. The image on the retina of the second eye was the sharper and paler. These images faded rapidly, as the red ground faded on exposure to light. Another similar experiment gave a pretty distinct image of a window with its cross-bars.<sup>2</sup>

Farther experimentation has yielded to Kühne<sup>3</sup> additional information. He has improved his methods and succeeded in obtaining better images. Moreover, it appears that the red retina dried on porcelain in the dark retains its color, and after long drying exposure for hours even to direct sunlight does not bleach it, but only changes its color to a more orange-red. The retinal images may therefore be preserved for a long time.

The red color of the outer members of the rods has been found wanting only in the bat and in birds (pigeon, hen), but the outer members of the cones are never colored, and the retina of the snake, which contains only cones, is entirely colorless.

Kühne has also succeeded in isolating the coloring matter in solution or as a solid. A clear, filtered solution is of a beautiful carmine red, which when exposed to light quickly becomes of a chamois-leather color, and finally colorless. So long as the solution remains red it absorbs all

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, 3 and 4, 1877.

<sup>2</sup> The writer, in connection with Professor Bowditch, in the laboratory of the latter has succeeded in confirming the results of these experiments.

<sup>3</sup> Centralblatt für die medicinischen Wissenschaften, 11, 1877.

the light of the spectrum from yellow-green to violet, and transmits apparently a little violet, certainly all yellow, orange, and red. When the retina is exposed to the solar spectrum its color is completely bleached in fifteen minutes by the yellow-green, much more slowly by blue-green, blue, indigo, and violet, very little by yellow, orange, and ultra-violet, while long and repeated exposure to red scarcely changes it.

*Innervation of the Vessels of the Retina.* — Contradictory accounts of the effect of galvanization of the cervical sympathetic on the vessels of the retina have been given by different observers, and it has been objected to the experiments made that, as by the usual method of galvanization through the skin other nerves than the sympathetic must be also stimulated, the results obtained could not be depended on. To obviate this objection Klein and Svetlin<sup>1</sup> made a series of observations on animals, the cervical sympathetic and its superior ganglion having been isolated and laid bare and then exposed to the influence of the constant current. The circulation of the retina was studied under varying conditions: (1) the sympathetic being divided below the superior cervical ganglion, (2) this ganglion being removed, (3) the whole of the cervical portion of the sympathetic being galvanized, (4) the sympathetic being divided and its central end stimulated. Moreover, they examined a number of normal human eyes. Both animals and men were carefully observed with the ophthalmoscope before, during, and after the galvanization, but in no instance, either after the division or the stimulation of the nerve, could any change in the size of the retinal vessels or of the color of the disk be discovered. They therefore conclude that the innervation of the retinal vessels must be effected by other nerves than those which spring from the superior sympathetic ganglion.

*Calabar in Diseases of the Eye.* — Weber<sup>2</sup> had, as early as 1867, satisfied himself by measurements with the tonometer that the cornea and sclera, that is, the aqueous and vitreous, normally are under different degrees of hydrostatic pressure, and that a portion of the pressure exercised by the vitreous is sustained by the parts separating it from the aqueous chamber, the zonula and the lens. Observing that under certain pathological conditions this difference of pressure varied and even sometimes was reversed, he sought for means to restore the normal condition in such cases. His experiments led him to the result that atropine in the normal eye diminishes the pressure, if at all, only in the vitreous chamber; that in the aqueous chamber, on the contrary, it increases the pressure. On the other hand, calabar causes increase of pressure only in the vitreous, while it sensibly lowers the pressure in the anterior chamber.

The chief element in producing this change under the influence of

<sup>1</sup> Wiener medicinische Wochenschrift, No. 4, 1877, page 32.

<sup>2</sup> Archiv für Ophthalmologie, xxii. 4.

calabar is found in the behavior of the iris. While under ordinary circumstances the iris slants slightly forward from its ciliary insertion, the strong contraction of the sphincter pupillæ tends to drag its central portion backward into the same plane as its periphery, and so assists the zonula in supporting the pressure of the vitreous; at the same time the pushing back of the centre of the iris increases the pressure in the vitreous chamber, and the latter effect is increased by the fact that the ciliary processes swell under the use of calabar, as may be observed in iridectomized eyes.

The therapeutic value of calabar Weber considers dependent simply on its mechanical action. He has found it of the greatest advantage whenever the indication is to diminish the pressure on the posterior surface of the cornea, in keratocele (bulging forward of the deeper layers of the cornea after ulceration of the anterior layers), in conical cornea, in staphylomatous processes, in ulcerations of the cornea which tend to spread and deepen, in peripheral prolapse of the iris after operation for glaucoma or cataract. In extensive and deep ulcerations of the cornea, in which the tendency to perforation is usually so great, the favorable influence of calabar has even led Weber to lay the blame of the perforation on the atropine, which is the standard remedy in such cases, on account of its action to increase pressure in the anterior chamber. In superficial ulcerations of the cornea, especially if there be irritability and vascularization, calabar is counterindicated. In certain cases of glaucoma the employment of calabar checked the progress of the disease (as Laquer<sup>1</sup> too, found), and in some improved the vision and enlarged the field, but from one observation and from *a priori* reasons warning is given to caution in its use, lest hæmorrhage from the swollen ciliary processes be excited. One form of glaucoma depends on the flattening of the ciliary attachment of the iris against the cornea so as to check the filtration of fluid outward through the ligamentum pectinatum: here calabar by contracting the pupil tends to drag the iris away from the cornea. Since eserine has been employed the results obtained have been even more favorable than with calabar extract.

Wecker<sup>2</sup> also has employed eserine with excellent results in cases of large ulcerating abscesses of the cornea, and of *ulcus corneæ serpens*; in both, however, with the addition of an incision through the cornea. He attributes, moreover, a certain amount of antiseptic effect to eserine. Another indication for its employment in his hands is beginning purulent infiltration of the wound after the cataract operation. With the first symptoms of this condition the whole length of the wound is opened by means of a probe, and a one per cent. solution of eserine

<sup>1</sup> JOURNAL, vol. xcv., page 554.

<sup>2</sup> Klinische Monatsblatt für Augenheilkunde, February, 1877.

dropped into the eye every hour or half hour, while the lids are frequently washed with a hot solution of carbolic acid, one part to a thousand.

*The Action of Pilocarpinum Muriaticum.*—The results of a somewhat extended employment of the muriate of pilocarpine, the active alkaloid of jaborandi, in Weber's clinic, are reported by Scotti.<sup>1</sup> The drug was given therapeutically, and also for purposes of experiment in healthy persons. One cm. of a two per cent. solution of the salt injected subcutaneously was found sufficient to obtain the full effect. The action of the drug was shown first by a rapidly occurring salivation, accompanied almost immediately by rise of temperature and pulse, with reddening and feeling of warmth in the face. This was shortly followed by sweating, beginning on the forehead and spreading over body and limbs. Not seldom a feeling of cold, or a decided chill, which sometimes even lasted an hour, without any fall of temperature, was observed to precede the sweating or to occur after this was established. Occasionally there was impulse to urinate, without, however, always ability to pass urine; often impulse to defæcation. Respiration was in some cases unchanged, in others showed more or less variation.

When pilocarpine was thus employed subcutaneously, its myotic effect was often little marked, but in one case of atrophía nervi optici it could, on account of the existing mydriasis, be readily observed, and lasted during twenty-four hours. No change in the refraction could be made out. There was no change in the size of the vessels of the retina.

But if a drop of a two per cent. solution were placed in the conjunctival sack, a strong myosis was produced, beginning in three to five minutes, and reaching its maximum in fifteen or twenty minutes. When only one drop was instilled the myosis lasted two to three hours, but instillation of a few more drops after the myosis was established extended its duration to twenty-four hours. The myotic action was, however, much less strong than that excited by an eserine solution of equal strength, and it also appeared that while the latter causes spasm of accommodation to nearly the maximum, pilocarpine caused only an accommodative spasm of small amount, that is, one fortieth to one thirty-sixth. Atropine proved an active antidote of pilocarpine; even the instillation of more than five or six drops of a one per cent. solution into the conjunctival sack was sufficient nearly or wholly to prevent the action of a subcutaneous injection of the latter.

The symptoms observed all point to a relaxation of the walls of the arterial system, and the suddenness with which they appear to an affection of the centre for the nerves supplying the vessels. All the appearances noticed may be explained by the supposition of a laming of the central organ of the sympathetic nervous system, and it seems most probable that it is on this centre that pilocarpine specially acts.

<sup>1</sup> Berliner klinische Wochenschrift, No. 11, 1877.

Scotti states that in cases of vitreous opacities, after irido-choroiditis, pilocarpine has proved of great value, even after the vain employment of all other usual treatment, but where the opacities were the result of irido-cyclitis no improvement was found from its use.

(To be concluded.)

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## PROCEEDINGS OF NORFOLK DISTRICT MEDICAL SOCIETY.

ARTHUR H. NICHOLS, M. D., SECRETARY.

APRIL 10, 1877. Special Meeting. The society met in Roxbury, and was called to order at eleven A. M., the president, Dr. JOHN P. MAYNARD, in the chair. Present, forty-four members.

*Recent Progress in Pharmacy.* — PROF. GEORGE F. H. MARKOE exhibited the following objects, prefacing his remarks by saying that the general drift of recent improvements in pharmacy tends towards the production of improved apparatus, by means of which the pharmacist is now enabled to make for himself — and that, too, without any very expensive outlay — nearly all the official preparations in common use: —

(1.) A set of improved American graduates, the graduations upon which consist of rings entirely encircling the glass, which was shown to be a decided improvement upon the former mode of marking upon one side only. The best form of English graduates are, indeed, marked upon opposite sides; but with these inaccuracy is not unfrequently occasioned by the mark upon the reverse side not corresponding with that upon the front. With the improved circular marking, however, accuracy in dispensing is rendered simple and sure, provided ordinary care is taken by the pharmacist.

(2.) A Japanese quart tea-pot, capable of being employed as a still for the recovery of alcohol from fluid extracts in the preparation of spirits, which can be heated by either the water or the sand bath, the peculiar character of the ware rendering it but little liable to break, even when heat is directly applied.

(3.) An improved copper water bath, in which the concentric rings were locked together, thus effectually preventing the slipping of the rings, which is so annoying in the common form of water bath. The rings adapted the apparatus for use with evaporating dishes or flasks of from one ounce to thirty-two ounces.

(4.) A modification of the well-known Liebig's condenser, devised by Hoffman, of Berlin. It was shown to be exceedingly suitable for condensing distillates upon a small scale, having the merit of being very easily cleaned after use.

(5.) A new form of Bunsen burner, only two inches high, but having all the power of the ordinary form of burner which stands six inches high, and so constructed that the flame does not recede when the gas is turned low.

(6.) A new form of gas tubing, not liable to retain and emit the disagreeable odor of gas, as does the ordinary rubber hose.

(7.) Sulpho-carbonate of sodium. This article was shown in several stages

of manufacture, from the crude, dark-colored state, as obtained by first crystallization, to the white, perfectly pure salt. Professor Markoe gave an account of the sulpho-carbolates as a class of salts, their mode of manufacture, and their properties, noting especially the calcium, sodium, and zinc sulpho-carbolates, these being the sulpho-carbolates at present employed in medicine. Attention was called to the fact that the sulpho-carbolates, when pure, do not smell of carbolic acid, and if this odor be present it constitutes the strongest evidence of insufficient purification.

(8.) A solution of salicylate of atropia, made according to the formula of C. R. C. Tichborne,<sup>1</sup> recommended as preferable to the solution of the sulphate of atropia, in that it does not develop fungous growths.

Professor Markoe closed by calling attention to malt extract as an emulsive agent for cod-liver oils and other oleaginous preparations. At the present time, when cod-liver oil is extensively employed as a therapeutic agent, anything that will neutralize or overcome its disagreeable oily character and bad taste will be welcomed by patients. Extract of malt possesses the power of producing a perfect emulsion with cod-liver oil, and a mixture of equal parts of cod-liver oil and extract of malt was exhibited, having a semi-solid consistence, in which the taste of the cod-liver oil was more perfectly concealed than can be accomplished by any other known process. Other mixtures were also shown containing various proportions of cod-liver oil, and to which various flavoring extracts had been added.

DR. HENRY A. MARTIN presented the following report of a committee of the Norfolk District Medical Society concerning the propriety of payment being demanded for certain certificates now required gratuitously, and under penalties, by the state and municipal governments.

Your committee, appointed to determine and report what measures, if any, may properly be taken with a view to the payment of members of this society for the preparation and signature of certain certificates required by law, begs leave to say that two forms of such certificates are known to it:—

(1.) Certificates or notifications of the existence of disease dangerous to the community by reason of contagion, as small-pox, scarlet fever, and diphtheria.

(2.) Certificates of death and causes of death. It is not considered necessary to recite the statutes which make the return of such certificates obligatory. They are both required by law, disobedience to which involves a considerable penalty.

In regard to certificates of the existence of dangerous contagious diseases, the members of your committee are unanimously of the opinion that such certificates are most properly required, and should be willingly, promptly, and accurately made, on the ground of public necessity, as aid may be demanded for the suppression of a riot or the arrest of a criminal, and can be withheld only under the penalty of arrest and punishment as an accessory,—*particeps criminis*. While your committee recommends that this class of certificates should be rendered by the profession as a matter of the highest and most imperative duty, it would insist that the performance of the duty should not en-

<sup>1</sup> See American Journal of Pharmacy, April, 1877, page 152.



tail a pecuniary tax, however slight, upon him who performs it. Proper blanks should be furnished, and also stamped envelopes with printed addresses rendering them valueless for other uses. Your committee is aware that postal cards have lately been, to a limited extent, distributed for this purpose, but is of opinion that there are reasons of considerable force why these notifications should be under cover of an envelope.

The second variety of certificate, that of death and cause of death, your committee considers of very great importance, and fully agrees that such certificates should be made with the greatest care, accuracy, and promptness. For many very important reasons this last is demanded. Such service of physicians is demanded not by public necessity or safety, but for the public good, precisely as that of a jurymen or witness, whose services are for the public good and may be imperatively demanded, but must be paid for. There seems to be no reason whatever why such certificates should be required under penalty of a fine, when no remuneration is afforded for the faithful performance of the required service.

That such certificates should be paid for would seem to be admitted by the payment of a certain fee to the undertaker for merely certifying death and burial. There surely is no valid reason why an undertaker should be paid for giving a certificate which requires no skill or knowledge whatever, except perhaps a very limited acquaintance with chirography, and a physician be allowed no remuneration for a similar service, requiring, when properly performed, both skill and special knowledge, and often in no slight degree; — no reason whatever, except the usage of demanding gratuitous service from our profession, usage encouraged and developed by the facility with which the profession of medicine has rendered and does render, in a thousand ways, unpaid service to humanity.

Your committee would recommend that a form of petition be prepared, in such way as may be hereafter decided, asking from the legislature such changes in existing statutes as may enable physicians to obtain a reasonable fee for the preparation and signature of certificates of death and its cause. Your committee also recommends that the secretary be directed to communicate with the secretaries of other district societies throughout the State, which together constitute the Massachusetts Medical Society, such action as may be taken in this matter, with a request for their coöperation, to the end that the petition above recommended may be that of *all* the physicians of Massachusetts in regular standing.

Another variety of certificate, namely, those showing that individuals have been duly vaccinated, has come under the notice of your committee. Such papers are continually called for, sometimes to a degree involving great trouble and loss of time. Physicians are, however, not required to give such certificates by any statute or ordinance. The law requires that every child seeking to enter one of the public schools shall present such a certificate as a prerequisite to admission. The parents or guardians must furnish such certificates; no physician, however, except the city or town physician, where there is such a functionary, is bound to furnish them free of charge. Although in fact an immense proportion of these vaccination certificates are furnished gratuitously

by physicians, there is no doubt whatever that they are entitled to a proper fee for such certificates and for the previous skilled examination essential to their proper preparation, as for any other professional labor. It would be very difficult, however, to obtain such remuneration from individuals, and as the rendering of such certificates is eminently for the public good, your committee considers that it should be paid for by the public.

The question of remuneration for certificates of vaccination is one for the consideration, under existing statutes, of the different municipal governments. Your committee is informed that some of these governments within this district have recognized the propriety of remuneration, and allow a moderate fee for each certificate of vaccination. Your committee recommends that representation be made to each municipal government, by the members of this society resident therein, of the justice and propriety of remuneration for making out certificates of vaccination, and does not doubt that such representation will be favorably considered. It is desirable that there should be uniformity in the fee asked for, and your committee, after careful consideration, would name fifty cents as a moderate and fit sum to be paid for each certificate, either of vaccination or of death and its cause. Your committee is, however, of opinion that such fee or any fee should only be payable by either the state or the municipal government for a careful, accurate, and prompt performance of the service required. In cases in which certificates of due vaccination should be given to children whose bodies do not present the clear characteristic mark or marks which alone can authorize such a certificate being given at all, unless after a most careful and, if necessary, repeated re-vaccination, not only would the authorities be fully justified in withholding remuneration, but also in inflicting an exemplary penalty.

In a word, your committee would most earnestly represent that all certificates from physicians should be made out carefully, accurately, fully, and promptly. All these the State has a right to expect from the members of a learned and liberal profession, and in cases where negligence, inaccuracy, ignorance, or delay is found, a perfect right also to withhold remuneration, and in extreme cases to enforce the penal clauses of the statutes. On the other hand, when such service is done with scientific accuracy and in all respects as the law requires, the profession has a right to expect and demand a moderate and reasonable payment for the service rendered to the community.

HENRY A. MARTIN, *Chairman.*

DR. W. C. B. FIFIELD thought that very great carelessness prevails in the matter of signing death certificates, physicians frequently appending their signatures to these documents in cases where they have no real personal knowledge of the actual cause of death. This custom is not only immoral, but is attended with serious danger to the community. There is no doubt but that many murders are annually committed in New England, where fraudulent or incorrect certificates are made the agents for concealing the crime. In no other country was there such a neglect of ordinary measures for bringing murderers to justice, and nowhere else was escape after the committal of murder easier. Improved statutes should be framed requiring the physician to inspect

the body before giving a death certificate. It is, moreover, desirable as a means of attaining greater accuracy that such certificates should be made under oath or strong affirmation. It is a notorious fact that where the publication of the real cause of death would reflect unfavorably upon the character of the deceased or his relatives, many physicians consent to substitute some other than the correct cause. Deaths from congenital syphilis are of common occurrence, but who ever heard of such deaths being registered under that head?

Dr. Fifield displayed a collection of new instruments and apparatus, among which were the following:—

(1.) A new thermo-cautery capable of being easily and speedily prepared, and hence especially useful in cases of sudden hæmorrhage.

(2.) The clamp of Henry Lee, useful in operations for hæmorrhoids, excision of the tongue, castration, etc.

(3.) The clamp of Bryant, for holding hæmorrhoids to which the cautery is to be applied, an improvement upon that of Henry Smith, in that the latter cannot be so readily dilated, and tends, moreover, to distend the rectum. The back of this clamp is furnished with an ivory surface, to prevent the rectum from being scorched.

(4.) Bryant's specula (three sizes), made of polished box-wood, and designed to facilitate an accurate examination of the cavity of the female urethra.

(5.) An apparatus designed to bring a firm pressure to bear upon the tonsils or roof of the mouth, and thus arrest hæmorrhage. In the case of a son of Nélaton a profuse hæmorrhage, resulting from an excision of the tonsil, was checked, and his life saved.

DR. W. P. BOLLES exhibited an improved apparatus for the knee-joint devised by himself, and consisting of two deeply curved wooden splints fitting the back of the thigh and leg, joined together by a peculiar brass hinge. This hinge is composed of two quadrants, one fitting into the other in such a way as to allow the splints to be bent at any angle, and at the same time imparting great strength to the apparatus. The apparatus is supplied with Crimean splints (covered whalebone) in front, and is attached firmly to the limb by means of straps in so compact a manner as to admit of its being worn under the trousers.

*Improved Apparatus for administering Vaginal Douche.*—DR. J. STEDMAN displayed a new apparatus devised by himself for conveying a continuous stream of water from a Fairbanks's syringe to the vagina, the water flowing into an inflatable rubber pan placed beneath the patient, and thence conducted through a rubber tube leading from one side of the pan into a pail beneath the bed. Dr. Stedman reported several cases tending to illustrate the advantage of employing by means of this apparatus a constant stream of hot water for the purpose of allaying the inflammation so often observed in vaginitis and in hypertrophy of the cervix. He had found this douche of a temperature of 105° F. more efficacious than medicated injections. He recommended, moreover, the use of this form of douche in the case of lying-in women. In place of the rubber pan he thought economy might be attained by the substitution of one made of crockery.

† *New Metallic Probe.* — DR. HENRY A. MARTIN exhibited a new form of probe composed of narrow strips of an amalgam consisting of zinc and tin, twisted and rolled, possessing great flexibility and strength. Numerous specimens of this probe of various sizes were distributed among the members. He showed also an improved elastic ligature, and read a paper illustrating the advantages possessed by these instruments in the treatment of diseases of the rectum.

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### THE NEW YORK ODONTOLOGICAL SOCIETY.<sup>1</sup>

THE dental societies, outgrowths of the intellectual progress of the last quarter of a century, of which every State has one or more, and the older States one at least to every district and large town, are doing a good work in stimulating and carrying on the educational idea, thus bringing this body to a closer union with and nearer the level of the older professions. When it is considered that dentistry as a profession has an origin dating no farther back than about the period of our Declaration of Independence, and that a century has scarcely elapsed since the first wandering dentist offered his services in one of our Eastern cities, its present position of intelligent advancement, its numbers reaching some thirteen thousand members, is a matter of astonishment. The first organized effort in an educational way was the founding of the Baltimore Dental College, in 1839, on the plan of the medical schools of the day. This has been followed by the establishment of some ten others in various parts of the country, and it has been by the graduates from these schools, actuated by the desire for continued improvement, and by organization for that purpose, that the dental societies have been formed. These in turn have reacted upon the schools, causing a gradual raising of the standards of their curricula, and upon the profession at large, enforcing the broader and more liberal education of its members.

One of the most earnest and active of these societies, though one of the youngest, is the Odontological Society of New York, composed of some fifteen active members, who invite the coöperation of the best men throughout the country as associate members. The second volume of its transactions contains much that is valuable, not only for the practicing dentist, but also for the medical man, who is suspected by the former of not knowing too much of the buccal cavity and its contents.

The first paper, on the Extraction of Permanent Teeth in Childhood, is a dispassionate and logical discussion of the problem, taking a middle ground, and placing the occasional necessity in a clear light. The subsequent debate by members includes both extremes, with their arguments, and is also valuable as illustrating the conclusions of the essayist. Like all other questions pertaining to dentistry, it would seem as though no final decision would ever be reached, the profession, from what seems a peculiar temperament of its members, running to extremes and taking "partisan views."

The paper on the artificial production of secondary dentine by the use of lacto-

<sup>1</sup> *Transactions of the New York Odontological Society.* Regular Meetings, 1876. Philadelphia: Samuel S. White.

phosphate of lime over exposed dental pulps is also interesting, both in its statements of alleged facts and for the ensuing discussion. The writer states that phosphate of lime partially digested in lactic acid and applied in a more or less thick paste to an exposed dental pulp, or among the cheesy fragments of a carious cavity, will be taken up in the plasma and applied at once in the building up of secondary dentine and the restoration of the lost parts. If this is true there would seem to be nothing in the way of building up in this manner a whole tooth minus the enamel, and it would seem to be an exception to every law of nature which demands that nutrition shall come by the way of the circulation.

The treatment of necrosis of the alveoli and jaw-bones with sulphuric acid, though not wholly unknown to the medical profession, if as successful in such positions and cases as asserted, would seem to indicate a larger use of this agent in general practice.

Where all is good it seems invidious to particularize. The Incidents of Office Practice contain much that is important for the dentist and suggestive for the physician, as throwing light on obscure disturbances of the cavity of the mouth and its neighboring tissues. Cases of apparently hopeless fractures of teeth and of similar accidents are described, in which the greatest ingenuity and deftness of manipulation saved and rendered useful members which, not many years ago, would have been condemned to the forceps.

To our dental literature, neither too good nor too abundant, this publication is a valuable contribution.

T. H. C.

### COOKE'S TABLETS.<sup>1</sup>

THE great sale that these tablets have met with shows clearly that they are what the student wants, or thinks he wants. They are too obviously intended to assist in "cramming" to commend themselves to us, but we freely admit that they are very good of their kind.

### THE FALL OF THE CORONERS.

THOUGH as we write it has not yet occurred, there can be little doubt that by the time this is read the bill for the abolishment of coroners will have passed the legislature. It certainly is a great triumph for those that have advocated it. Had we prophesied it a year ago we should have been laughed at as visionary, and indeed very justly. Our exultation is mixed with amazement, for the ring to be broken was corrupt, daring, unscrupulous, and, we thought, powerful; but the gods intending their ruin had made them mad, and we have to thank the coroners themselves for their discomfiture. The legal and medical professions have worked together in this matter; each appreciated the evil, and each did what it could for its reform. The thanks, not of these professions alone, but of every lover of decency and justice, are due to those

<sup>1</sup> *Tablets of Anatomy and Physiology.* By THOMAS COOKE, F. R. C. S. New York: William Wood & Co. 1873-74.

who have labored diligently and successfully for this measure. Beside the hearing on the coroner question there has been one, as our readers know, on the case of A. W. K. Newton, with a view to his removal; a hearing which has greatly assisted the cause. Of this we may speak another time; at present we have the main question to consider. The coroners now depart from official existence; their successors, the medical examiners, are to be appointed, and, if we may trust rumor, the appointments are likely to be made very soon, at least for Boston, where the question is more serious than in the country districts. In order that the reform should bear its full fruit it is evident that these new officers should be very carefully chosen. The governor is likely to be embarrassed, for the salary is a tempting one, and there are many avowed candidates already in the field. Many of them can command powerful interest, and there are to be but two in Suffolk County. Though the choice will in practice be difficult, the points on which it should be based are theoretically easy to state. As a matter of course no one who has been associated with any of the proceedings that have made the name "coroner" a term of reproach can hope to be considered now. The three chief qualifications are technical knowledge, executive ability, and an absolutely unblemished reputation. Of these the last is the most important, and, we trust, will not in the case of any candidate be taken for granted, even on the word of respectable indorsers, but be subjected to a rigid scrutiny. This is of vital importance, for the new system should be a brilliant contrast to the old.

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### MEDICAL NOTES.

— Dr. John P. Reynolds has been appointed to the chair of obstetrics at the Harvard Medical School left vacant by the death of Dr. Buckingham. Dr. W. L. Richardson has been appointed instructor in obstetrics, and the office of instructor in clinical obstetrics has been abolished.

— A recent writer in the *Edinburgh Medical Journal* of March, 1877, recalls attention to the use of oil of turpentine in sciatica. The method of administration which is advocated is to combine it with castor-oil, as in the following

R̄ Olei terebinthinæ . . . . .	3 ij.
Olei ricini . . . . .	3 iv.
Mucilaginis . . . . .	3 iv.
Aquæ . . . . .	ad 3 ij. M.

the whole to be taken early in the morning. Several cases are given in detail, in which after two or three trials the pain subsided.

— Billroth extirpated an enlarged spleen in a woman forty-five years old, the report of which appears in a recent exchange. The incision extended from a hand's breadth above to the same distance below the umbilicus, and the spleen came out readily; there were no adhesions. The gastro-splenic omentum, together with the enlarged splenic vessels, were divided into six portions by strong hempen ligatures doubled. No blood was lost in cutting away the spleen. The ligatures were cut short, drainage tubes were introduced, and the line of incision was closed with sutures. The spleen was twenty-eight centi-

metres long, eighteen broad, and eleven thick; its weight was 2975 grammes. For four hours after the operation the patient was very well; she then had a sudden, urgent desire to go to stool, and passed a few very hard fecal masses, suddenly grew pale, and died in consequence of hæmorrhage, both internal and external. The autopsy showed that the ligatures, which were put on close to the pancreas, were all stripped off, evidently at the moment when the patient was straining at stool, at which time the pressure in the splenic vein became much increased. The professor proposes in his next case to inclose a small portion of the pancreas in the ligatures, to avoid the above accident.

— According to Noël, *Bulletin de l'Académie royale de Médecine de Belgique*, 1876, tome x., No. 8, a venous pulsation is seen in the majority of persons rousing from chloroform narcosis; usually it is seen in the anterior jugulars and subclavians, in rather more than half the cases in the external jugulars also, and sometimes even in the facial veins. The pulsations are synchronous with the radial pulse; on palpation a very slight sensation only is imparted; on compression of the veins at the base of the neck the pulsations cease, while compression at the upper part of the neck increases the pulsations. The writer explains this phenomenon by an incomplete closure of the right auricle from the right ventricle during systole, which is the result of weakening of the function of the heart induced by chloroform. In view of this fact the danger in the use of this anæsthetic in certain cases is obvious.

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## BOSTON CITY HOSPITAL.

### SURGICAL CASES OF DR. CHEEVER.

[REPORTED BY GEORGE W. GAY, M. D.]

*Cysto-Sarcoma of Breast; Removal; Recovery.* — An unmarried woman, forty years old, first noticed a small lump in her left breast eight years ago. It remained quiet until within four months, since which time it has increased quite rapidly in size, and has also been painful. No injury has ever been received upon the breast. A grandmother is her only relative who has died of malignant disease.

The left breast at the time of the operation was the seat of a smooth, elastic, globular tumor, about five inches in diameter, and freely movable upon the subjacent tissues. The skin was of a dark brown color, but not infiltrated, nor was the nipple retracted. A hard nodule was to be felt on the outer side.

The growth, including the nipple and entire breast, was removed by Dr. Cheever, February 2, 1877. During the operation the larger cysts were ruptured, and gave exit to about three ounces of bloody fluid, with masses of lymph and altered blood. The solid portions were firm nodules of a grayish color. Fifteen ligatures were applied to bleeding vessels, the wound closed with sutures, and treated with simple dressings. Convalescence progressed steadily, and the wound was healed in about six weeks.

Dr. Bolles examined the specimen, and pronounced it to be a cysto-sarcoma; not a common disease of the breast. The solid masses projected into the

cysts, and were composed of cells similar to those found in large-celled sarcoma.

Although there were no signs of a recurrence of the disease when this patient left the hospital, yet it is quite probable that there will be a local return of it sooner or later. Such at least, has been the course of several cases of sarcoma which have been under treatment here within a few years. These growths do not infiltrate adjoining tissues, nor penetrate deeply by the lymphatics like cancer; yet they kill none the less surely, only less quickly, than the latter disease.

*Pott's Fracture; Section of Peronei Tendons; Good Result.*—Mrs. W., thirty-seven years of age, while going down-stairs January 19, 1877, fell and turned her left foot under her. She entered the hospital the next day, presenting the following symptoms of fracture of the left leg: ecchymosis; immobility of the ankle-joint; intense pain on manipulation; crepitus; deformity, and displacement of the foot outwards. The fibula was broken three inches from its lower extremity, and the internal malleolus was also separated.

The limb was placed in a fracture box for ten days, and then side splints were applied, without, however, entirely correcting the lateral deformity.

February 6th. The tendons of the peroneus longus and brevis were divided by Dr. Cheever about an inch above the outer malleolus, and the foot then brought easily into place, and retained by the side splints.

An immovable bandage was applied on the 3d of March, and worn not quite three weeks, when union was found to be firm and the deformity very slight. The patient was discharged at the end of sixty-one days, able to walk quite well.

Section of the fibular group of muscles, which dislocate the foot outwards, would seem to be a rational treatment for bad Pott's fracture. In this case the patient was very restless.

*Hernia Testis; Removal.*—While carrying a heavy water pipe last summer, the patient, aged twenty-six years, felt a sudden strain in the groin, and soon after noticed a lump in the left side of the scrotum. This tumor was bandaged or strapped for some time with no result. A physician then punctured it with a knife, but obtained only a little blood.

The puncture never healed, and when the patient entered the hospital, January 31st, almost the whole of the tubular structure of the left testicle was protruding from the tunica albuginea, forming a granulating, fungoid tumor two and a half inches in diameter.

In view of the patient's occupation as a laborer, of the sound condition of the other testicle, of the large size of the hernia testis, and of the long time it would probably require to effect a cure by conservative measures, Dr. Cheever advised that the organ be removed by castration.

This operation was accordingly performed. The wound was closed with sutures, and treated in the usual manner. The patient was discharged well in twenty-six days.



## LETTER FROM BALTIMORE.

MESSRS. EDITORS, — The annual convention of the Medical and Chirurgical Faculty of the State of Maryland, after a four days' session, closed yesterday. This organization is one of such importance that a few facts with reference to its origin and rise to the highest status of medical bodies, whether foreign or domestic, may not be out of place.

The Medical and Chirurgical Faculty was "incorporated as a body politic forever" under that name in January, 1799, the first meeting to be held at Annapolis, according to the act of incorporation. Since then the faculty have convened annually at Baltimore. This corporation was empowered to elect twelve persons of the greatest medical and chirurgical ability in the State, to be styled the Medical Board of Examiners, whose duty it should be to grant licenses to such medical and chirurgical gentlemen as, either upon full examination or upon the production of diplomas from some recognized school, they may judge adequate to commence the practice of medicine or surgery. Without the license granted by this board no person could practice medicine or surgery lawfully and without violating the statutes, such violation rendering the transgressor liable to legal prosecution. Undergraduates can present themselves, after a thorough course, before the board for the licentiate examination, for which a fee is charged. We might expatiate at length upon the power vested in and duties devolving upon the faculty, not the least important of which is regulating the fee table by which physicians and surgeons practicing throughout the State are to be governed; but enough has already been said to show the sound basis upon which the faculty was founded, and to convince our readers that these laws with but slight modifications having been handed down to us of the present, the Medical and Chirurgical Faculty embraces talent of the first rank, numbering among its members the very heads of the profession.

The faculty, seventy-nine years ago small but powerful, is to-day developed into a Titan whose influence is felt throughout the land. The modest room down town has been relinquished for a cheerful library with reading-room and conversation suite; the dingy hall has been abandoned for the brilliant and elegant Academy of Music. To be president of such a body of men to-day ought, we think, to satisfy the ambition of any physician or surgeon. Professor Christopher Johnston, our Centennial president, has just completed his arduous duties, retiring amidst universal regret, a rising vote of thanks being tendered him by the faculty, who are doubly indebted to him in that he presented them a valuable souvenir of his term of office in the shape of an inaugural address, to which we shall revert presently, and which is of such interest and importance, practically as well as scientifically, that were the entire space allotted to our letter devoted to it alone we should fail to do it justice.

The seventy-ninth annual convention commenced on Tuesday, the 10th inst., at twelve M., at the Academy of Music. Delegates from several medical societies, including the New England Clinical Society, represented by Drs. B. B. Miles and D. C. Ireland, were present; also the following visitors: Dr. J. S. Billings, Surgeon U. S. A.; Dr. John M. Woodworth, Marine Hospital, Wash-

ington ; Prof. S. Weir Mitchell, Philadelphia ; President D. C. Gilman, of the Johns Hopkins University, etc.

The president, Prof. Christopher Johnston, presided, the gavel calling the meeting to order at the hour above named. After prayer by the Rev. Dr. Hodges, of St. Paul's Episcopal Church, Professor Johnston proceeded in that clear and fluent style peculiar to him to deliver his inaugural address, which was attentively listened to by a large and appreciative audience, who gave substantial proof of approbation by passing a resolution to print the address and appointing a committee to consider the subjects treated of.

The greater portion of the discourse was devoted to a consideration of the relation of the medical profession to the courts of justice : first he dwelt upon the question of the sacredness of confidential communications before the courts, and second the position of the medical expert when he receives his subpoena to present himself in the courts to testify. The professor produced evidence on the first point to show that communications of such nature were held to be inviolate in the case of an attorney, and were practically so in that of a priest. He further claimed that they should also be so where a physician is concerned. In the course of their practice physicians often have divulged to them secrets, solely for the better treatment of the case, which if made public would destroy the happiness and peace of those concerned, and to compel physicians to divulge these was to make an unjust discrimination against the medical profession. To require a medical expert to come before a court of justice and testify under the same circumstances as other witnesses he thought was unjust. Ordinary witnesses testify only to facts, while the expert is required to give an opinion, the result of a large amount of expensive preparation. By his very position as an expert he is enjoying a large and lucrative practice, to leave which for only a short time entails loss both upon him and upon his patients ; and hence paying him upon the same scale as ordinary witnesses is decidedly unfair. The essential difference in the character of the testimony of the expert and a common witness was spoken of at considerable length, and the hope expressed that in the near future the expert in Maryland, as in New York at present, would be at liberty to give his testimony or withhold it, as he thought best.

As the learned gentleman neared the close of his inaugural he left this subject, and impressed upon his hearers the necessity of a medical register of the State, which should contain a list of physicians, medical societies and their officers, medical libraries, manufacturers of medical instruments, and an abstract of all laws relating to the profession. He also suggested the establishment of an independent section of microscopy, competent to report upon histology and micro-chemistry, and the branches thereunto appertaining. The need of a medical register, such as exists in England, for example, is great indeed ; the qualified and regular practitioners would by such means placed in legal form be able to expose and control the irregular and unqualified, and at the same time deal a fatal blow to thriving ignorance and quackery, which ought in every case to be punished by a heavy fine or imprisonment. We are glad that a new source of knowledge will be opened to us by a section upon histology and micro-chemistry, the thorough significance of which, physiologically as

well as pathologically, Professor Johnston certainly appreciates, in that he has found time despite his ever pressing surgical duties to become an expert in these very sciences.

Professor Johnston is evidently not one of those who think lightly of professional secrets under any circumstances; he needs no comment, however, and we do not doubt that the very important suggestion as regards medical experts, coming from such authority, will soon find its way to the legislative chambers.

The second day's session took place Wednesday, April 11th: Professor Mitchell delivered the annual oration on *Some Extremes in Therapeutics*. He spoke of the remedies that had had their day and dropped into oblivion, reciting some old methods of practice that had proved fallacious. To let blood formerly was as much in vogue as to give tonics is now. European physicians were, he said, going to the extreme in ordering their patients mineral spring water as a panacea. Professor Mitchell recommended the treatment of exhausted nervous patients by perfect rest in bed and by the shampoo; whilst mountain air, exercise, such as walking and driving, deserved most praise as curative measures. In speaking of the Johns Hopkins University, he regretted that he was not twenty-one years of age and a native Baltimorean.

Dr. A. B. Arnold then read a paper on *melancholia*, in which he opposed the idea that a man could be insane on one subject and sane on all others, after which Dr. John N. Monmonier submitted a report on *embryology*, the nerve supply of the lungs, etc. Both papers were able, and referred to the committee of publication.

On the third day Dr. L. McLane Tiffany read a good paper on the various methods of dressing wounds, giving the preference to Lister's method, which he commended in high terms.

Dr. W. C. Van Bibber followed him on the therapeutics of pressure, somatic support and modes of dress, which as at present worn must necessarily be very deleterious to health, especially to females. He advocated the "chemiloon," which has recently been introduced as an article of female dress, and decidedly more beneficial than even the comfort corset. He had seen nausea, vomiting, and dyspepsia in both sexes caused by wearing tight shoes, and had heard of dislocations of the ankle-joint from high heels.

The secretary, Dr. W. G. Regester, read a greeting from the Alabama State Medical Association convened in Birmingham, Ala.

On the fourth and last day, Friday, April 13th, Dr. C. C. Cox of Washington, presented resolutions eulogistic of the splendid achievements and great talents of the venerable Prof. Nathan R. Smith, and tendering him the heartfelt sympathy of the faculty in his present hour of bodily affliction.

Dr. Jos. B. Lynch offered a resolution that the president, vice president, and secretary be appointed to memorialize congress and correspond with medical societies with reference to the removal of the import duty on quinia; unanimously adopted. The election of officers for the ensuing year then took place. Dr. Abram B. Arnold was chosen president.

The new committees next appointed were on legal medicine and medical registration, to take action upon the valuable suggestions of Professor Johnston's inaugural address, which just now is a leading topic in medical circles and

is likely to continue so for a time if we are to believe the critics who consider it the event of the year.

In conclusion it will be scarcely necessary to express our regret at having been unable to give the address *in toto*; it will be found, however, in the printed transactions of the faculty. It is to be hoped that a sufficient edition of the address itself, printed separately, will be placed at the disposal of the proper committee to be forwarded to leading medical centres, and that the medical press, editorially, will advocate the adoption of Professor Johnston's reform in other States as much in need of it as our own.

After appointing delegates to the American Medical Association, to the New York, Pennsylvania, Ohio, Virginia, and other medical associations, the faculty adjourned *sine die*.

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 21, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	454	21.91	27.46
Philadelphia	850,856	327	19.98	22.88
Brooklyn	527,830	197	19.41	24.31
Chicago	420,000	154	19.05	20.41
Boston	363,940	118	16.86	23.39
Providence	103,000	40	20.19	18.34
Worcester	52,977	19	18.65	22.00
Lowell	53,678	17	16.47	22.21
Cambridge	51,572	16	16.13	20.54
Fall River	50,370	14	14.45	22.04
Lawrence	37,626	13	17.97	23.32
Lynn	34,524	7	10.55	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	9	17.50	23.57

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NORFOLK DISTRICT MEDICAL SOCIETY. — The annual meeting will be held in Bradley's Building, Roxbury, on Tuesday, May 8th, at eleven o'clock.

Election of officers. Address by Dr. C. C. Tower. Lunch at 1.45 P. M.

ARTHUR H. NICHOLS, *Secretary*.

THE annual meeting of the Middlesex East District Medical Society will be held at the house of Dr. William F. Stevens, Stonham, on Wednesday, May 9th, at 5.30 P. M. Members of other district societies are cordially invited to be present.

J. RICHMOND BARSS, *Secretary*

THE annual meeting of the Boston Medical Association will be held at 36 Temple Place, on Monday, May 7th, at four P. M.

CHARLES P. PUTNAM, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — The Relations of Ancient Medicine to Gynaecology. By Edward W. Jenks, M. D. (Reprinted from the Detroit Medical Journal.)

Atlas of Skin Diseases. By L. A. Duhring, M. D. Part II. Philadelphia: J. B. Lipincott & Co. 1877. (For sale by A. Williams & Co.)

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVI.—THURSDAY, MAY 10, 1877.—NO. 19.

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## A CASE OF HYDROPHOBIA.

BY JOHN C. BARTLETT, M. D., CHELMSFORD.

ON the afternoon of February 4, 1877, I was called upon by Mrs. Strout (widow and housekeeper), aged forty-seven, with the request that I would cauterize a wound upon her hand, inflicted a few hours previously by a Spitz dog, a stranger to the family, which had laid itself upon the doorstep and manifested no appearance of sickness, but at first met her advances pleasantly by wagging his tail and such other expressions of affection as dogs usually manifest. Upon her attempting to pat his head, however, he snapped at her hand and bit her upon the thumb. I found it impossible to produce any sensation even by sulphuric acid, as a lady in the family with much presence of mind had deluged the wound with strong water of ammonia, under the action of which not only the wound itself, but the surrounding skin was so burned that all sensibility of the surface was destroyed, and apparently all vitality.

I endeavored to reassure the patient by the fact that the previous cauterization had been so effectual that no absorption of virus was possible. I heard nothing more from her until Tuesday, April 3d, when I was called to her by a message that she was troubled with gaping. When I reached the house, she met me at the door, and the rush of cold air at once brought on a severe spasm or gasping, attended by a violent throwing up of the hands, as if respiration were to the last degree difficult. This continued for a few seconds only, but when the spasmodic action subsided the respiration continued rapid and excited, like that of a person who had been running. In order to test the character of the case more thoroughly, and at the same time allay any mere nervous excitement connected with it, I administered half a grain of sulphate of morphia *in water*, the sight of which produced an immediate recurrence of the convulsion and difficulty of respiration; but when once the fluid was poured well back in the mouth, the ability to swallow it was apparently normal, and this condition continued as long as any attempt was made to induce her to take water, indicating that the spasmodic tendency was chiefly confined to the larynx and muscles of respiration, while the œsophagus was not affected. I re-

ceived from her the following account of her illness: on Sunday, after attending church, she was conscious of not feeling quite as well as usual, with little appetite. After a good night's sleep, she felt refreshed on Monday morning, but had no appetite for her breakfast, and found herself unable to swallow her coffee from an uncomfortable sensation in the throat. At this time she suspected hydrophobia, but with the resolution which was a strong element in her character, and which led her to declare until the last day of her life that she should recover, she did a large family washing, although towards the latter part of the day she found it difficult to put her hands in water because it produced a tendency to spasms.

On Tuesday morning she felt so much worse that she sought medical advice. There was no swelling nor any symptoms of inflammation about the throat; no pain, no local tenderness at any time through her sickness. There was no discoloration of the fauces, and nothing to indicate febrile action. At my second visit I requested the attendance of Dr. Howard, of Chelmsford, and we administered chloral hydrate in large doses, continuing also the morphine in combination with it, but entirely without alleviation of the symptoms, which were a highly excited condition of the nervous system and the unceasing recurrence of the severe spasms if she attempted to swallow liquids. At this period we sought the advice of Drs. Green and Spaulding, of Lowell, but owing to circumstances not necessary to mention we missed a consultation with them, as they did not reach the patient until eleven o'clock P. M. and remained in charge until two o'clock, continuing the same treatment by various methods of administration but without benefit. On Wednesday all attempt to administer anything by the mouth was abandoned, and nutritive injections with the medicines added were resorted to; at this time there was another symptom, namely, the violent and reckless ejection from the mouth of a frothy discharge, without any regard on her part to its direction, the attendants finding it necessary to be watchful to avoid its falling upon their persons.

There was no return of the spasms except on an attempt to drink or from the effect of a rush of cold air. Up to Wednesday night she had not closed her eyes in sleep since the Sunday night previous; during Wednesday night she slept about three hours, but without any alleviation of the symptoms.

On Thursday, April 5th, she began to discharge from the stomach a large quantity of a green fluid, not by a true vomiting, but by simple ejection as an infant often ejects the milk which it has imbibed too freely. This tendency increased until the matter thrown off was poured out in large quantities, and although liquid it produced no convulsions, but the smallest quantity offered her at once brought them on.

During the whole course of the case the pulse remained very constant at about 80, except for a moment at times when some excitement occurred. Under such circumstances it was once noticed at 100, but immediately subsided to its former condition. On Thursday afternoon, a few hours before death, it rose to 112, and probably increased to the end. She died at midnight after an illness of four days. Neither pouring of water from one vessel to another, nor the flashing of light upon glass, nor the sight of water (unless she was asked to swallow it) ever brought on the spasms. In looking back upon the symptoms in this case, I cannot avoid asking myself the question, Why did this patient die? Taking away the peculiar symptoms which made it hydrophobia, I think no physician would for a moment have felt any anxiety about the case.

Indeed, without the local convulsions produced by the attempt to swallow liquids there would have been no case, and the prognosis given by Dr. Green at a consultation on Wednesday afternoon, when the question of recovery was broached, is about all that can be said upon the subject, namely, "*It is hydrophobia, and therefore she must die.*"

It is greatly to be regretted that we know so little of the disease, and it will be to the everlasting disgrace of the Massachusetts Medical Society if, with the constant recurrence of cases at the present day, effectual means are not taken to systematize the knowledge we really have, and thoroughly to investigate the subject.

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## A CONTRIBUTION TO THE STATISTICS OF GYNÆCOLOGY.

BY VIRGIL O. HARDON, M. D.,

*Physician to the Out-Patient Department of the Rhode Island Hospital, and Physician to the Providence Dispensary.*

DURING the past year my attention has often been directed to the frequency of the occurrence of laceration of the cervix uteri in parous women, and to the infrequency of the recognition of this condition by the majority of physicians. I therefore took pains during the three months of my last term of service as physician to the out-patient department of the Rhode Island Hospital to preserve notes of all the cases of uterine disease which came under my observation and treatment. As a result I offer the following statistics:—

Whole number of cases treated, twenty-seven. Of these, five occurred in nulliparous and twenty-two in parous women. In the five nulliparous women no laceration was found, of course. Of the twenty-two parous women, nineteen had laceration of the cervix to such an extent as to lead to eversion of the lips and apparent ulceration, and to produce symptoms of sufficient severity to cause the patient to apply

for treatment. These symptoms consisted in every case of leucorrhœal discharge, pain in the back and side, especially after walking, bearing down or dragging sensations about the loins, irritation of the bladder, shown by frequent micturition, in fourteen of the cases severe, continuous headache at the vertex of the head, extending back to the occiput, and in five cases gastric irritation, which was relieved as soon as the severity of the uterine symptoms was ameliorated by treatment.

The youngest patient was seventeen years old, the eldest forty-two, and the remainder of the cases were pretty evenly distributed between these two ages.

Ten of the cases had been treated for "ulcers on the womb," but in no case had there been any permanent relief from the distressing symptoms. These are the statements of the patients, and must of course be taken with a certain degree of allowance.

Seven of the cases were complicated by ante flexion, three by retro flexion, and one by polypus of the cervical canal. The remaining eight appeared to be uncomplicated, except by a considerable amount of endocervicitis and congestion of the cervix, which existed to a greater or less degree in every one of the cases. In every case there was the so-called ulceration taking its starting-point from the angle of the laceration covering nearly or quite the whole of the everted surfaces.

Of the nineteen patients, eight had borne but one child, while eleven had borne more than one, the greatest number being seven. In fourteen, miscarriage had occurred at some previous time.

Nine referred the beginning of their symptoms to a previous miscarriage, six to a confinement at term, and four were unable to trace any such causation. Of the six who dated their trouble from a confinement, two described their labors as long ones, one being of seventy-four and the other of fifty-eight hours' duration. The third was delivered by forceps after being in labor about nine hours. The remaining three described their labors as quick and easy ones.

In eight of the cases laceration occurred upon both sides of the cervix, in nine upon the left side alone, and in only two upon the right side alone. In every case there was evidence of previous cellulitis in the form of tenderness, thickening of the broad ligaments, and plastic deposit in the roof of the pelvis. In eleven cases the evidences of cellulitis existed upon both sides, and in eight cases only upon the left side. It is a noticeable fact that when the cellulitis had existed only upon one side it was invariably the left side. At a meeting of the New York Obstetrical Society, Professor Peaslee<sup>1</sup> referred to this fact, and gave as a reason "the return of the venous blood by the spermatic or ovarian vein proper, and not directly into the ascending vena cava by a short vein, as on the right side, whereby a venous stagnation and hyperæmia might

<sup>1</sup> American Journal of Obstetrics, October, 1876.



be more readily induced, and a cellulitis of the left side brought about." Dwight<sup>1</sup> has confirmed this theory by anatomical demonstration, and has shown that a varicose condition of the veins of the pelvic region may exist upon the left side while the right side remains perfectly normal. He considers this condition as analogous to varicocele in the male, and suggests that many of the cases of so-called cellulitis may be simply varicocele of the broad ligament and neighboring structures.

These cases still remain under treatment, and I hope at some future time to be able to give the results. Suffice it to say that the copious vaginal douche of hot water forms the chief element of the first stage of treatment preparatory to the operation devised by Emmet<sup>2</sup> for the restoration of the lacerated cervix to its normal condition. An appreciable relief of all the symptoms is visible in from one to two weeks after the use of the vaginal douche is commenced. To this rule I have found no exception.

In every case the examination was made with a Sims's speculum with the patient in Sims's position, for I believe that the diagnosis of laceration of the cervix is impossible except under these conditions.

As far as so small a number of cases can be considered as proving anything, these statistics go to show : —

(1.) That laceration of the cervix to an extent sufficient to produce troublesome symptoms is a very frequent condition in women who have borne children.

(2.) That this condition may generally be referred to a miscarriage or to a labor at term as a cause, and that it may result from an easy labor as well as from a long or a hard one.

(3.) That as a rule extensive laceration of the cervix leads to pelvic cellulitis, and that both the laceration and the resulting cellulitis are very much more likely to occur upon the left than upon the right side.

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## RECENT PROGRESS IN OPHTHALMOLOGY.<sup>3</sup>

BY O. F. WADSWORTH, M. D.

*Therapeutic Effect of Tattooing the Cornea.* — Warning has been given, by several writers, against the wounding of vessels in tattooing the cornea as likely to interfere with the effect. Voelkers' experience, however, led him to a contrary opinion. He observed in cases tattooed for the opacities due to recurrent keratitis that the recurrence was stopped by the tattooing. In these cases the vessels on the cornea had been pricked and the coloring matter (India ink) had appeared to enter and fill the vessels; he concluded, therefore, that the disposition to fresh

<sup>1</sup> Boston Medical and Surgical Journal, February 15, 1877.

<sup>2</sup> American Journal of Obstetrics, November, 1874.

<sup>3</sup> Concluded from page 531.

inflammation in vascularized cicatrices of the cornea depends on the vessels in them, and that tattooing causes obliteration of the vessels either in the trunk or capillary terminations, and so stops relapses.

To test the accuracy of this idea Hohn<sup>1</sup> undertook a series of experiments on rabbits. Having excited vascularized scars on the cornea he tattooed it near and at its edge, taking care to prick the vessels as much as possible, and later examined the corneæ under the microscope. The coloring matter was found largely in the needle wounds, but also in the corneal tissue near them, finely divided or in clumps inclosed in wandering cells or masses of protoplasm; it filled the vessels to a greater or less extent, was often mingled with the blood in them, and was particularly massed at their bifurcations; it was even present within the cells of the endothelial lining. The foreign substance acts, then, to obliterate the vessels by forming emboli or exciting the formation of thrombi; perhaps also by absorption of the substance into the endothelial cells the nutrition of the vessels is so changed as to cause their closure.

*Recent Theories of the Nature of Glaucoma.*—While Donders regarded the increase of intraocular tension as the essence of glaucoma, and the inflammatory symptoms as only a complication never occurring without previous increased pressure, Graefe considered the disease as of inflammatory nature, a form of irido-choroiditis, and the increased tension a result of the inflammation. Schnabel<sup>2</sup> believes neither of these theories is correct. Against the former it is urged that attacks of acute glaucoma have been repeatedly observed in perfectly sound eyes, against the latter that it supposes an inflammation in many cases (glaucoma simplex) which present no symptoms to authorize such a conclusion.

Among the chief symptoms of acute glaucoma is the turbidity of the media. This has usually been placed in the vitreous, but erroneously. The variations in degree of the transparency of the media depend upon the amount of opacity of the central parts of the cornea, often overlooked, and opacity of the vitreous does not exist. That this is the case is shown by the transparency of the media when the cornea is clear, by the exceedingly rapid clearing of the media after iridectomy in direct proportion to the clearing of the corneal opacity, and by the negative evidence afforded by the non-demonstration of opacity of the vitreous. The want of opacity of the vitreous is of importance in determining the nature of the disease, inasmuch as in all grave inflammations of the interior of the eye there is more or less turbidity of the vitreous.

Two forms of periodical obscuration of vision are to be distinguished in glaucoma: the one occurs suddenly, is attended with appearance

<sup>1</sup> Archiv für experimentelle Pathologie und Pharmakologie, B. vi. H. 3 and 4.

<sup>2</sup> Archives of Ophthalmology and Otology, v. 3 and 4.

of rainbow colors, depends upon the corneal opacity, and is relieved by iridectomy; the other depends on affection of the perceptive apparatus, is not removed by iridectomy, and presents no objective symptom. The periodical corneal opacity is believed to be owing to the secretion of a turbid fluid caused by a neurosis of secretory nerves.

The pain with glaucoma may be very great when there are no symptoms of inflammation. Several cases have been reported in which neuralgia of the trigeminus preceded glaucoma, and another instance of this is given. The pain in glaucoma simplex is to be regarded as neuralgic, and that in inflammatory glaucoma not as a sign of the inflammatory process, but of an independent affection of the nerves.

That the disease is not essentially inflammatory is farther shown by the condition of the pupil, which is diametrically opposite to that found with iritis, by the absence of tenderness on pressure, and by the fact that iridectomy, which increases the inflammation in iritis, here excites no harmful reaction.

Anæsthesia of the cornea is not due, as generally held, to pressure on the sensitive nerves, but is a consequence of the neuralgia of these nerves. It is absent in glaucoma simplex, even in connection with great tension, and is present after attacks of pain, though the tension be not increased. Nor is increase of tension to be considered as a fundamental factor in glaucoma; there are cases in which cupping of the disc occurs without demonstrable increase of tension, others in which the cupping precedes the increase, and perhaps in such it may be assumed that there exists a coincident disease of the lamina cribrosa. In any case increase of tension must be waited for as the signal for an iridectomy. But the effect of iridectomy does not reside in its influence to reduce intraocular tension; the instant relief of pain and rapid clearing of the cornea after the operation points unmistakably to an analogy between this result and the relief of a neuralgia by neurotomy.

Knies<sup>1</sup> examined fifteen glaucomatous eyes. He found as a most constant change an inflammatory adhesion of the periphery of the iris to the cornea so as to obliterate the canal of Fontana. The tissues about the canal of Schlemm also showed evidence of inflammation. Since it has been shown that the greater part of the filtration of the fluids of the eye outward takes place through the canal of Fontana, its obliteration must cause an increase of the intraocular tension, and increased tension is the main symptom of glaucoma. Besides, other symptoms of glaucoma, opacity of the cornea, anæsthesia of the cornea, iridoplegia, hyperæmia of the anterior scleral veins, may be most readily explained by an inflammation of the tissues in this region. Schnabel's view that glaucoma is not of inflammatory nature is rendered im-

<sup>1</sup> *Archiv für Ophthalmologie*, xxii. 3.

probable by the constancy of inflammatory changes found. It cannot, however, be considered absolutely decided whether inflammation or increased pressure through nerve influence is the primary condition, and it must be admitted that nerve influence is of great importance in exciting the acute attacks. But Knies is inclined to believe that inflammation about Schlemm's canal is the primary lesion, though farther investigation is necessary to decide this. As for the way in which iridectomy brings relief the cases examined gave little indication, for in but few had iridectomy been made, and only in one successfully. In the latter the adhesion of the periphery of the iris to the cornea was not destroyed by the operation. It is regarded as probable that the cicatrix of the wound offers a new means of exit for the intraocular fluids, that it acts, according to Wecker's idea, as a filtration cicatrix.

Klein,<sup>1</sup> by frequently repeated observation of two cases, was able to see the beginning and increase of a cupping of the optic disc, while there existed, during the first part of the process at least, no increase of intraocular pressure. The depression in these cases was not formed by the gradual enlargement of a previous physiological depression, nor did the whole surface of the disc recede in equal degree, but first one portion, then another of the disc sank, the peripheral boundary of the sunken portion always coinciding with the disc edge. This manner of production of the depression, as well as the impossibility of determining any abnormal tension, is regarded as showing that the cupping could not have been due to pressure, and increased pressure, therefore, cannot be regarded as a necessary condition for glaucoma. It is not assumed, however, that the excavation always takes place after the manner here observed; it may be formed by a slow equal depression of the whole disc surface, or by enlargement of physiological depression.

The yellowish-white ring surrounding the disc, so constantly found in glaucoma, Klein considers of far more symptomatic importance than has generally been admitted. The appearance, situation, and extent of this ring all point to its origin in a sclero-choroiditis posterior confined to the district supplied by the arterial circle in the sclera around the opticus (arterial circle of Zinn). As the lamina cribrosa is included within this district, an inflammatory process there interferes with its nutrition and renders it incapable of withstanding even the normal intraocular pressure, while without the coexistence of such a disturbance of nutrition even greatly increased intraocular tension is insufficient to cause excavation. Certainly increased tension, when it is present, is a very important factor in producing excavation, but there is a class of cases of glaucoma in which this factor plays no part.

Iridectomy influences the whole glaucomatous process, not simply the

<sup>1</sup> Archiv für Ophthalmologie, xxii. 4.

intraocular tension ; the latter is diminished only when it is abnormally great.

*Nitrite of Amyl for Blepharospasm.* — Harlan<sup>1</sup> reports the case of a girl of fifteen years, who had extraction performed on both eyes on account of the trouble caused by congenital dislocation of the crystalline lenses. A few months later she returned with very severe blepharospasm. Examination under ether showed no disease of the eyes. After a treatment of some months in hospital, including double canthoplasty and entropion operations on all four lids, she was discharged, relieved, but still dependent on blue glasses.

Several months later she again returned with the blepharospasm worse than before. She was then subjected for four months to every method of treatment that could be thought of, but without effect. Finally inhalation of nitrite of amyl was tried. The first day she inhaled 3ss. morning and noon, and 3i. at night, the second day 3i. three times, the third day 3i. twice, the fourth and fifth days each 3ss. once. By the end of the third inhalation she could partially open her eyes ; after 3ss. had been taken she was fully under the effects of the drug, and on the fourth day she walked into the clinic room alone with her eyes open. For another month the patient was under observation, remained quite well, and had borne several ophthalmoscopic examinations without flinching.

*Blepharoraphia Medialis.* — Under this title Arlt<sup>2</sup> describes an operation intended to remedy the falling of the lower lid and consequent exposure of the eye which occurs with persistent facial paralysis. Starting from the level of the puncta lachrymales, he removes a strip of skin, two or three mm. wide and six or seven mm. long, from both upper and lower lid along the sides of the caruncle. The raw surfaces thus produced should meet at the inner angle, otherwise a sort of fistulous opening will exist there when the wounds have healed. The exposed surfaces are brought together by two or three sutures, and the eye kept closed till union is complete.

*Prelachrymal Cysts.* — Verneuil<sup>3</sup> calls attention to a hitherto undescribed species of cyst which he has had opportunity to observe in three cases. These cysts occupy the region of the lachrymal sack, but have no connection with it. They are interesting on account of their situation and their contents, which resemble olive-oil very much. They are generally, at least, congenital. In the three cases observed by Verneuil the tumors had existed as long as the patients could remember, and had given rise to no pain or trouble, except that caused by their appearance. They varied in size from that of a cherry stone to

<sup>1</sup> American Journal of Medical Science, April, 1877.

<sup>2</sup> Wiener medicinische Wochenschrift, No. 40, 1876.

<sup>3</sup> Gazette des Hopitaux, December 30, 1876. Wiener Medizinische Zeitung, No. 6, 1877

that of an almond; two were operated on by withdrawal of the contents by a syringe, in one of these iodine being afterwards injected, the third by incision. The contents of the cysts consisted of olein, margaric-crystals, margaric acid, and cholesterine.

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

FEBRUARY 24, 1877. Forty-two members were present, DR. WILLIAMS, the president, in the chair.

*The History of the Obstetric Forceps.* — DR. D. HUNT read a paper on the history of the obstetric forceps, which was published in full in our last number.

*Plaster-of-Paris Bandages.* — DR. E. W. CUSHING presented the following communication regarding the treatment of fractures of the femur by plaster-of-Paris bandages: —

The most striking advantage of plaster bandages is that by their use a person suffering from *any* simple fracture is able to move about, drive out, etc.; and this not only in fractures of the leg but in those of the thigh, to the treatment of which last by plaster-of-Paris bandages I beg leave to call your attention.

As this dressing is applied in Germany and Austria it is in no way superior to, if in fact it equals, the common American treatment; in France and England it is little if at all used; as used in America, however, it is light, strong, safe, and elegant, and it allows a person with a simple fracture of the femur to go about on crutches within thirty-six hours of the accident, if applied early.

The first case of fracture of the femur put up in America after the method with plastered roller bandages was, I believe, one of compound fracture at Bellevue Hospital, New York, under the care of Dr. Sayre, who flexed the limb at hip and knee, and cut fenestræ over the wounds; the case did very well, and the new treatment produced great enthusiasm among the house surgeons of the hospital and their successors, who devoted much time and labor to the investigation of the whole question of the treatment of fractures by plaster-of-Paris. Among those who advanced the subject and instructed their successors most carefully were Drs. Bryant, Curtis, McBurney, and St. John, with the approval and encouragement of the visiting surgeons. At this time the mode of applying the dressing was as follows: a stout iron bar, well padded, is screwed to the end of a table and serves for a point of counter-extension against which the tuberosities of the ischia rest. The patient is etherized, the back being supported by pillows, and the buttocks are slung in a loop of roller bandage which passes over a stout wooden bar, running from the top of the perineal iron bar over the body of the patient to a stool on the table beyond his head; the leg is drawn down by pulleys attached to a roller-towel, fastened round the ankle by what sailors call a plank hitch;

when by measurement the broken limb is as long as the other and no longer, the whole foot, leg, thigh, and pelvis being meanwhile swathed in a piece of old blanket cut to a suitable shape and rapidly pinned around the limb, the powdered rollers, first soaked for from three to five minutes in lukewarm salted water, are smoothly applied from the ankle up, forming a spica over the pelvis and the thigh, well up toward the perinæum; these are reinforced by pieces of old blanket, soaked in a cream of plaster-of-Paris, at the points of greatest strain, that is, the perinæum, trochanter, poples, etc. The whole is covered in with another layer of plastered roller, under the upper turns of which the projecting edge of the old blanket is neatly folded; a finish of a mixture of plaster and a little water, followed by some of the dry powder, is rubbed smoothly over the whole; on this it is often convenient to write the date and to sketch the position of the fracture. After the "setting" of the plaster, the relaxation from the ether still continuing, the foot from the toes up was similarly incased, the two parts uniting perfectly.

This mode of application gave excellent results, but in time improvements were made: first, it was found that it is not necessary to incase the foot at all, as the patella, the calf, and the malleoli give all the points necessary to keep up extension; secondly, it is not necessary to make the dressing go so far or be so strong in the perinæum as it was sometimes made, since the increase in size of the thigh upward, with the prominences of the trochanter and of the crest of the ilium, suffice to keep up an efficient counter-extension, powerfully aided by the weight of the limb and of the apparatus when the patient stands or walks.

In 1871 Dr. Van Wagenen, my immediate successor in the second surgical division at Bellevue, conceived and constructed an apparatus by which the plaster bandage can be more conveniently applied and certain disadvantages may be avoided. The iron perineal bar was always a formidable object to look at; patients were afraid of it, the ill disposed said that it would injure the perinæum, which it never did, although it sometimes contused the labia in females. Dr. Van Wagenen built a folding frame, supporting, when open, a piece of carpet, on which the patient's whole back and head rest; the counter-extension is obtained by two stout straps, smooth and well oiled, passing on each side around the perinæum, and attached by buckles or toggles to the apparatus, which is securely fastened to the table; these straps can easily be slipped out from under the rollers when the plaster has set and the patient is in bed. The sacrum rests on a piece of flat iron supported by any upright rod resting on the table. The flat piece is easily slipped out afterwards from under the spica. The direct extension is made by traction on *both* feet, using a crossbar with two canvas moccasins on it, thus insuring the perpendicularity of the feet and the straight position of the body and pelvis. By the use of this machine the patient can be more easily etherized, is much more comfortable, and can be more readily unfastened and put to bed without disturbing the dressing.

It remains to consider certain points connected with the application: of course anæsthesia is necessary to relax the muscles and diminish the force requisite to produce the desired extension; under ether this is so moderate

that there is no danger of hurting the perinæum, if reasonable care is used. Compound fractures are put up in the same manner as simple ones, and after the plaster has set, fenestræ are cut over the wounds; these should be edged round with oiled muslin, fastened by collodion in such a manner that the discharges may not soil or soften the plaster. If the fenestræ are to be so large that the apparatus will probably be weakened, it must be strengthened by strips of tin or iron in suitable places when it is put on. Oakum is applied over the fenestræ and secured with a bandage to absorb the discharges and prevent the flesh from bulging through the opening.

The results of this treatment are most gratifying, if it be applied properly and at the right time, that is, as soon after the accident as possible, before much swelling has taken place, or, if this is impossible, as soon as the first swelling has been reduced. If it be applied when the limb is much swollen it will be necessary afterwards to cut out a strip of from half an inch to two inches in width, tapering from above downward to a point; this is done by wetting it with hot water and cutting the lines with a shoe-knife or an instrument made for this purpose.

It is often impossible to tell, after recovery, by measurement or feeling which femur was broken, and the large number of cases now recorded with careful measurements shows that better results are obtained by this treatment than by any other. Allow me to put in evidence a synopsis of the returns for thirty-one cases of fractured femur, treated in Bellevue Hospital during the year 1872, and prepared by Dr. Van Wagenen for Dr. Sayre,<sup>1</sup> by which it is shown that including five cases of compound or complicated fractures the average shortening was  $\frac{3}{10}$  inch. Of this whole number ten were shorter than usual, owing to peculiar circumstances of various kinds: one which had been run over by a truck was ununited; the other twenty cases give an aggregate shortening of  $5\frac{1}{2}$  inches or an average of  $\frac{1}{4}$  inch, one being lengthened  $\frac{1}{8}$  inch and four being not shortened at all. It will be at once noticed that the worst results were obtained where from any cause the patient had to keep his bed. Moreover, I would observe that these measurements were taken some time after the splints were removed, to allow for possible shortening from sliding of the young callus under pressure, which is apt to occur unless care is taken.

It is right to consider here an objection which has been urged against this treatment, not on account of bad results but *a priori*. Is it quite safe? It seems a great risk to incase a fractured limb in an immovable dressing and not to look at it for five weeks. Now of course, like any important surgical procedure, this must be carried out *secundum artem*. A simple roller in careless hands may do fatal damage; it is always necessary to watch the circulation in the feet for two or three days, as long as swelling is to be feared. Curiously enough, however, a fractured limb when put up in a plaster bandage does not swell; the ends of the bone do not irritate the muscles, which in their turn are prevented from contracting spasmodically. If there is any coldness, numbness, or pain of the feet, if the toe nails are blue and the circulation

<sup>1</sup> Report on Fractures. By Lewis A. Sayre, M. D. Extracted from the Transactions of the American Medical Association. Philadelphia, 1874.



sluggish, the bandage must be cut along the median line, sprung open a little, and secured by a roller; in the country this may be done as a precautionary measure, and with proper care there is no doubt that the treatment is perfectly safe. This being the case it would seem that the convenience of the patient, which here coincides with that of the surgeon, ought to be sufficient ground for the general introduction of this treatment, for it is certainly a great hardship to be kept on one's back in bed for several weeks unnecessarily, and then to get up with a shortening of the limb greater than that which would have resulted from the more comfortable mode of treatment.

DR. CHADWICK was of the opinion that the results from this method were better than those from the ordinary methods of treating fractured femur.

DR. CUSHING mentioned the case of a patient with a broken thigh, who walked up four flights of stairs immediately after the plaster bandage was applied; and that of another who went to England as a hand on a sailing vessel nine days after the fracture was put up.

DR. AYER spoke of the case of a very excitable epileptic patient, thirty-three years of age, whom he had treated for fracture of the femur within the capsular ligament, with considerable shortening. Owing to the condition of the patient for two weeks after the injury no splints could be applied. Extension and counter-extension were kept up, sand-bags were employed, and after eighty-five days the shortening was found to be but three eighths of an inch.

DR. CUSHING remarked that it was usually the cases of intracapsular fracture which increased the average of shortening.

DR. BOWDITCH asked whether plaster bandages had been applied in cases of the rupture of a ligament or part of a muscle.

DR. CUSHING answered that this method had been used in such cases by Dr. Sayre, also in sprains, and of late in Pott's disease.

DR. BIXBY said that in 1859 he had applied a plaster-of-Paris bandage to a recent fracture of both bones of the leg.

DR. J. W. CUSHING called attention to the fact that plaster-of-Paris bandages were in use for the treatment of recently broken thighs at the Massachusetts General Hospital as early as 1859.

*Removal of Bougie from the Bladder, complicated by Stricture.* — DR. C. B. PORTER reported the case. The patient, aged sixty-six, entered the Massachusetts General Hospital complaining that he had lost a No. 4 bougie in his urethra. Twenty years before he had had stricture with retention for which he was tapped per rectum. He got along for ten years with the occasional use of the catheter, when perineal section was performed for retention. Since that time he had used a bougie constantly, his urethra gradually contracting until he could pass only a No. 4. He was in the habit of introducing the bougie and walking about his room for some time before withdrawing it. It was in one of these perambulations that the bougie slipped inside the meatus and afterward into the bladder. As no instrument suitable for grasping it could be made to pass the stricture it was "divulsed." A medium-sized lithotrite was then introduced into the bladder, the bougie was seized near its larger end and withdrawn. The patient left the hospital in a short time, and passed for himself daily a No. 12 metallic sound.

*Vesical Calculus in a Female ; Dilatation of the Urethra ; Lithotrixy.* — DR. PORTER reported the case of Mary Dorsey, aged twenty-eight years, married, who after confinement fifteen months before began to suffer from frequency of micturition and pain during the act. She noticed this before she was able to be up and about after her confinement. In five or six weeks, as soon as she was able to walk about, the pain increased and became especially severe after micturition. At times also her flow of water would stop suddenly. She passed, as she says, a good deal of gravel which used to collect in the vessel. All her symptoms gradually increased in severity, and since the birth of her last child, about three months before she entered the hospital, her pain had been constant, with exacerbations after each act of micturition, and severe enough to double her up like an attack of colic. The pain was referred to the uterus and urethra, and after urinating she had a good deal of pain in her loins and hips. When sitting or lying she could hold her water, but as soon as she stood or walked she was unable to do so. She passed her water eight or ten times during the day and from four to six times during the night. She came to the hospital seeking relief from the great pain which she suffered.

After the patient was etherized a lithotrite was passed into the bladder and a stone about an inch and a half long was grasped. It required some little force to crush it. Considerable of the detritus was brought out between the blades of the lithotrite after each crushing. The urethra was dilated and the other fragments were drawn out through the urethra with nasal polypus forceps. Two of the fragments thus extracted were of considerable size, one of them measuring in its longest diameter nearly an inch, the other somewhat less. The bladder was then washed out with lukewarm water, and on introducing the finger through the urethra into the bladder nothing in the shape of fragments could be detected. The pieces removed weighed one hundred and seventy-four grains.

Since the operation she has done uninterruptedly well, has had no constitutional symptoms whatever, and has complained of nothing but soreness of the urethra while micturating. She was completely relieved from the severe pain which she suffered before the operation. The urine passed has contained no fragments. She passed her water four or five times a day. Subsequently she was sounded with a pewter sound and with the lithotrite, but nothing was detected. She was discharged well.

DR. W. H. BAKER had found Simon's urethral plugs of great value in dilating the female urethra, which he had had occasion to do in four cases. The length of time occupied was about fifteen minutes. No incontinence had resulted.

DR. JACKSON said that this case was interesting to him as having come on after confinement, and recalled a similar case operated on formerly by Dr. Bigelow. Dr. Jackson thought that such a stone might be crushed without dilating the urethra.

DR. PORTER knew of no reason why calculus should occur after confinement, except perhaps the occurrence of cystitis. With regard to the necessity for dilating the urethra, Dr. Porter said that without doing so in this case it would have taken a long time to remove the fragments. A very long sitting

or perhaps several would have been required. He had used the same method for the cure of supposed fissure and irritability of the urethra.

DR. CHADWICK spoke of the difficulty met with in dilating the meatus and the lower half of the urethra, especially in cases of urethritis, and the ease with which the upper part is distended. He had found the bullet forceps inside a rubber tube an efficient dilator which protected the urethra from laceration.

*Extensive Erysipelas in an Infant.* — DR. HOMANS reported a case of erysipelas in a child three weeks old, in which the disease extended from the face downward over the abdomen, back, etc. After two weeks the child was doing well. There was a slough on the head of the size of an ear. The disease was more extensive than he had observed in so young a child.

DRS. BOWDITCH and ELLIS had seen similar cases in children where erysipelas had spread over the whole body going off by the toes.

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#### VACCINATION-SYPHILIS.<sup>1</sup>

THOSE who are skeptical in regard to the transmission of syphilis by vaccination will do well to study the six series of cases — in all twenty-four — of syphilis presented by Mr. Hutchinson in this fasciculus. Most of them have already appeared in the Transactions of the Royal Medical and Chirurgical Society. There are, however, a number of new cases and a series of plates giving illustrations of a subject which we believe has never before been depicted. It should be stated that the author does not produce these cases to demonstrate the dangers of human virus, but rather to throw light upon the means to be employed to avoid syphilis. A startling feature of some of these cases is the fact that the infants from which the virus was taken were in several cases apparently in good health, and in one the rules which he lays down for guidance in selection would have failed. We find in a study of these cases that if the syphilitic and vaccine virus be implanted at the same time, if the patient is susceptible to vaccination, the vesicle will pass through all its stages in the most characteristic manner until it is healed. Then at the end of a month a little red, firm, glossy tubercle appears which gradually increases in size and becomes hard; subsequently it ulcerates and presents a sore remarkable for its small amount of secretion and for the hardness of its base and edges. If not treated it may last for some months. Syphilis is not necessarily conveyed by vaccination from a syphilitic subject, but if the cell elements of the blood or of the tissues, by allowing the vesicle to drain or weep, are conveyed in the virus, inoculation may take place. Pure vaccine virus may be obtained from the vesicle of such a subject; as soon as the contents of the vesicle are exhausted the risk begins. Such are some of the views given in the interesting remarks which accompany the plates of this fasciculus. We must confess that the appearances of the primary sore as delineated in the plates are not as characteristic as one accustomed to observe them on the genitals

<sup>1</sup> *Illustrations of Clinical Surgery, consisting of Plates, etc., with Descriptive Letterpress.* Fasciculus VI. By JONATHAN HUTCHINSON, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1877. (For sale by A. Williams & Co.)

might expect to see. Our suspicions, however, the author tells us, should be aroused by a well-marked clinical occurrence. He says: "If syphilis is to follow, the sore must relapse and remain unhealed for months. Should a patient who entertains suspicion give a history of his sore having healed for good within the month, such fact is conclusive. Syphilis cannot be transmitted, excepting through a sore which follows the usual well-known laws as to periods of incubation, etc." The description of the disease is given in the author's usual clear and vigorous style. We notice for the first time one or two inelegancies of expression, as for example, "infant of four months old;" but these are conspicuous rather from their rarity in the portion of the work which has thus far appeared. The author draws no conclusions in regard to the value of animal vaccination, chiefly, we presume, because little or nothing is known in regard to the question by English physicians. The question of syphilitic inoculation by vaccination is such an important one that we would recommend the present fasciculus to the careful perusal of every practitioner.

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#### BRAUNE'S TOPOGRAPHICAL ANATOMY.<sup>1</sup>

MR. BELLAMY, of London, has done a good work in translating this excellent treatise. Braune's magnificent atlas of life-size colored plates of frozen sections made its first appearance in 1867, and was completed in 1871. Three years later he decided to publish an edition with the plates reduced by photography to half size, which admits of their being bound with the text in a convenient volume. It is this which is now reproduced in English. The sections are made in various planes, but the most valuable series is that of transverse horizontal cuts through the neck, thorax, abdomen, and pelvis. The text is a running description of the plates, with such scientific and practical deductions as the great anatomical learning of the author has suggested to him. Besides the large plates there are many in the text, chiefly from Pirogoff, which serve as very instructive commentaries. Several of them show the effect of effusions in the thoracic cavity and of disease of its organs, and others show the influence of distention of the bladder and rectum on the position of the uterus. One of the great advantages of this manner of studying anatomy is that it does away with tacitly admitted notions about the normal position of organs; we might as well speak of the normal position of the body. The author's remarks on this subject in reference to the curves of the spine deserve much attention: not only must they vary with different individuals but with different positions, and it must be remembered that the tonicity of the muscles is not without influence. A work of this kind is but ill suited to critical analysis; what we have to consider is its plan and the skill with which it has been carried out. In this case a favorable verdict has long since been rendered on the original, and we have only to say that the merits of the work have not suffered in Mr. Bellamy's translation, though there are defects that a captious critic might mention. The student of modern anatomy will be grateful to

<sup>1</sup> *An Atlas of Topographical Anatomy.* By WILHELM BRAUNE. Translated by EDWARD BELLAMY, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1877.

Mr. Bellamy for having the boldness to transfer unchanged to English the technical terms sagittal, frontal, and transverse as applied to sections. A sagittal section means one in a vertical antero-posterior plane; a frontal one is in a transverse vertical plane, consequently at right angles to the former; and a transverse section is one at right angles to the long axis of the trunk or of a limb.

T. D.

## THE FALL OF THE CORONERS. II.

As we had anticipated, the bill abolishing coroners has passed the legislature. It went without discussion in either branch. At the last moment the opponents rallied, and Senator Fitzgerald, of Boston, who had the honor to be spokesman, moved a reconsideration, which happily was lost. If we are correctly informed, the object of this motion was to introduce an amendment making the number of medical examiners for Suffolk County six instead of two. We can well understand that the latter number is rather discouraging to ex-coroners and hungry claimants, for a black sheep could slip in more easily as one of six than as one of two.

The legislative committee on the case of Coroner A. W. K. Newton presented two reports. The gist of that of the majority was that the committee be discharged from further consideration of the case, as the legislature did not have jurisdiction and the coroner had resigned. The minority report, by Senator White and Representatives Hill, McCafferty, Wade, and Pillsbury, gives the following reasons for dissenting from the conclusions of the majority:—

“First, it is the right and duty of the legislature to inquire into the official conduct of any public officer, when formally called to its attention, with a view either to recommending his removal from office or to his prosecution in the courts; and this inquiry may be made either by a joint committee or by a separate committee of the house of representatives. In our judgment the precedents for such action leave this no longer an open question. Second, we do not consider that the tender of his resignation by a public officer, pending charges made against him, should put an end to or affect any such investigation, for the reason that, in our opinion, it would not be proper for the governor to accept a resignation of office under such circumstances, and thus allow a public officer to escape exposure. Third, at the first hearing given by the committee strong evidence was produced tending to prove very serious and disgraceful misconduct in office by Coroner Newton, and which, unless it is contradicted, of itself demands his removal from office. Several further hearings have been appointed, but each has been postponed in consequence of his illness. As a legislative inquiry into the conduct of a public officer is for the protection of the public, and in no sense a criminal proceeding, we do not think that the illness of such an officer ought *ipso facto* to put an end to such an inquiry, for the presence of the accused has never been considered essential to it, and the public interest might suffer seriously if because of such illness no proceedings could be had to remove an unfit officer from his office. And we are not satisfied that Mr. Newton might not, by deposition or written statement, contradict or explain the evidence already taken, and which seems to

bear so heavily against him. The committee long since formally notified the accused that it would receive his deposition or affidavit, neither of which has been presented, and we are inclined to think that, if he desired to, he might, at least before the adjournment of the legislature, instruct counsel so as to enable the committee to push its inquiry into the charges upon which it had begun, as they are very simple, and any answer to them must, it should seem, be equally brief. We think that the petition and written evidence in the case should be transmitted to the governor, with a view to Newton's removal from office."

These views of the minority were embodied in an order which was substituted for the majority report, adopted by both houses of the legislature, and laid before the governor. This action of the legislature establishes in the most authoritative manner the doctrine that in Massachusetts a public officer is not to be allowed to escape the results of an inquiry into his misconduct by resignation.

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#### MEDICAL NOTES.

— At a recent meeting of the Suffolk District Medical Society, Dr. J. B. S. Jackson showed two photographs of the late Prof. Jeffries Wyman, by Metcalf and Weldon, of this city. He remarked that these photographs were of uncommon excellence, showing Dr. Wyman as he appeared in his best days, and that members might like to know where to procure them.

— Dr. Dmitriew makes the following preliminary communication, in a recent exchange, in the form of a summary: Chloral hydrate acts powerfully in arresting certain fermentative processes, — as ammonia-potash and lactic acid fermentation, — even in weak solution (one per cent.). A one per cent. solution applied to a wound with a bad, foul-smelling secretion destroys the bad odor of the secretion quickly, and at the same time, on account of its irritating property, rouses a prompt development of healthy granulations, thereby hastening cicatrization. In external application chloral hydrate has a local, soothing action. His observations were made partly on dogs, partly on human beings.

— According to *The Lancet*, further experience in the use of hypodermic injection of chloral hydrate in cholera does not confirm the hopes which were at first entertained of its great value as a remedy in the malady. Dr. W. G. Hunter reports to the Medical Society of Bombay that he treated thirty-two cases of cholera by subcutaneous injections of hydrate of chloral in accordance with the directions laid down by Mr. Hall. The results were so disastrous that Dr. Hunter did not feel justified in pursuing the method farther. One patient died of traumatic tetanus, the effect of the punctures of the hypodermic syringe.

— In a paper on the Registration of Disease, published in *The Practitioner* for January, 1877, William Squire, M. D., presents the advantages that would be derived could an efficient system be organized for dealing with the trustworthy facts of sickness and its fatality. The record of death with its cause and the age at which it falls has already extended our knowledge of the nat-

ural history of disease and enabled us to do something for its prevention and cure. "What has thus been done by taking the one extreme result of disease leads us to see how much more might be possible could we arrive at an earlier knowledge of the distribution of disease or find the points of its earliest incidence. Disease . . . would thus be met at its outset, and be prevented, repelled, or defeated; for disease, not death, is the foe we are bound to oppose."

The first condition of success in such a contest, says Dr. Squire, is the obtaining early and complete information of the presence of the enemy, and the chief points of attack. Such a registration as is proposed by the writer would not be a substitute for the register of deaths; it would give useful warning beforehand; but it would be of full use and value only when taken in conjunction with the mortality returns.

The only attempt in this vicinity, so far as we are aware, to establish a registration of prevalent diseases was that made by the State Board of Health of Massachusetts, during the year 1875. Its results were published in a paper by Dr. Draper in the Annual Report of the State Board of Health for 1876. It has been a matter of regret on the part of many physicians that the plan thus begun could not have been continued with such modifications as experience might suggest instead of being dropped after but a year's trial.

— Edlfsen emphatically advises the use of chlorate of potash in acute and chronic cystitis (*Deutsches Archiv für klinische Medicin*, Band xix., Heft 1). It rapidly diminishes the amount of pus in the urine, and quickly causes the subjective symptoms to disappear or to diminish in intensity, and gives an acid reaction to the urine again. He recommends it especially in those cases in which oil of turpentine for any reason is contra-indicated, as when catarrh of the stomach, chronic gastric ulcer, or nephritis exists at the same time.

— We have examined with interest the fifth report of the Foochow Medical Missionary Hospital, an institution connected with the A. B. C. F. M. and under the care of Dauphin W. Osgood, M. D. Connected with the hospital is a dispensary. The number of patients treated during the eleven months previous to June 1, 1876, was 5134. Skin diseases, says the report, "continue to outnumber all others, and will do so until the Chinese learn that cleanliness is next to godliness." Very many diseases of the eye come for treatment; and the list of cases treated contains a large number of the various medical and surgical maladies. Among the surgical operations performed we notice lithotomy, resections of the elbow and of the upper and lower jaw; in one of the operations the entire radius was removed for necrosis. A recent report comes from the patient that his arm is quite well, but Dr. Osgood is unable to say how useful a member it will prove to be.

The Chinese are reported to consider minute directions in regard to food as of great importance, and some extracts from the Golden Mirror, a native work, compiled by order of the emperor, are given. Among its sayings are that horseflesh may be eaten if care is taken to avoid the part that has been covered with the saddle; that the liver must not be eaten as it will cause death unless the eater partakes of the following prescription: take the excrement from a male cat, pulverize and dissolve it, and take internally as required. Pregnant women must abstain from eating turtles, chickens, and

ducks, lest their offspring be deaf and dumb. It is feared that the child will have harelip if the mother eats rabbits.

It is stated that a good work on anatomy is greatly needed in China. Some wood-cuts taken from Chinese medical works are copied into the hospital report, which show how absurd and erroneous are the notions which the Chinese have regarding human anatomy.

— *The British Medical Journal* for February 24, 1877, gives an abstract of the report of the trustees of the Peabody fund for the year 1876, and moreover states that the Peabody donation fund is undoubtedly destined to exert not only an appreciable but a marked effect upon the health of London. From the report of the trustees it appears that on December 31st last the fund amounted to £643,317. Of this capital, £166,511 was unexpended at the end of the year. During the year 1876 a new group of blocks of Peabody buildings was completed and fully tenanted, and the aggregate number of residents in all the buildings erected by the trustees amounted at the end of the year to 7797, an increase of 2169 upon the number in residence at the end of 1875. When the buildings now in process of construction are completed, and this is expected in the course of the present year, the trustees will have provided dwellings for 2165 families, representing a population exceeding ten thousand persons. The weekly wages of the heads of all the families in residence in the buildings averaged less than twenty-five shillings, proving that the majority of the tenants belong to the poorer of the working classes. The weekly rents range from two shillings, the lowest price for a single room, to five shillings nine pence and seven shillings sixpence, the highest for three and four rooms respectively. The report also states that the death-rate among the occupants of the Peabody buildings during 1876, calculated upon the mean number of inhabitants, did not exceed 19.02 per 1000; this rate was 3.3 per 1000 below the average rate in the whole of London.

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## MASSACHUSETTS GENERAL HOSPITAL.

### SURGICAL CASES OF DR. CABOT.

[REPORTED BY O. P. HOWE.]

*Fracture of the Patella.* — P. F., thirty-one years of age, while driving, was kicked in the knee by his horse, causing a transverse fracture of the patella, the lower fragment being broken in two pieces. A temporary splint was put on the leg, and he was brought to the hospital December 22d, ten hours after the accident. The knee was then very much swollen, and there was pain and exquisite tenderness in the neighborhood of the fracture. There was about two thirds of an inch separation between the upper and lower fragments of the patella. The leg was put on a ham splint and ice bags were applied.

Two days later the effusion having somewhat subsided an attempt was made to bring the fragments into apposition. The apparatus used was as follows: two narrow, long side splints extended on each side of the leg from the middle of the thigh to about ten inches below the foot. These splints were connected at the lower end by a movable cross-bar which could be fixed



at any part of the splint by means of pegs. Through the middle of the cross-bar played a screw, to the upper end of which was attached a wire yard. The yard, of course, advanced or retreated with the turn of the screw. Thus far it was simply a Dessault's apparatus. Two broad strips of plaster were started well up the thigh and fastened securely to within a short distance of the patella; these strips passed down the leg, to be attached to the wire yard at the end of the screw, thus furnishing extension. Similar strips of plaster, but somewhat narrower, were started on the leg and passed upwards, through slits in the upper pieces of plaster, to be attached to the end of the splint. This supplied counter-extension. By turning the screw, then, the fragments of the patella could be drawn together by a force to be measured only by the strength of the apparatus and the patient's endurance. The ice bags were still kept on, and at the end of a week the effusion had almost entirely disappeared. For the next three weeks the fragments were kept in close apposition without pain to the man. A dextrine bandage was then applied, and the patient discharged. Three weeks later the dextrine was sawed off, and firm union was found, the fragments being about one eighth of an inch apart.

*Tumor of the Neck.* — The patient, a child three years of age, entered the hospital November 18th, with a tumor of eighteen months' standing. This at first increased slowly, but during the last few months had grown very rapidly. At the time of his entrance it was a lobulated mass, hard, freely movable, and extending from just below the left ear to the clavicle, and from the median line of the neck in front to the transverse processes of the cervical vertebræ behind. The measurement of the child's neck at the largest part was fifteen inches. Deglutition and respiration were not interfered with. There was no enlargement of the spleen or lymphatic glands. Examination of the blood under the microscope showed the proportion of white corpuscles to be twice the normal amount.

The boy was ordered five drops of the syrup of the iodide of iron three times a day. This, however, was followed by diarrhœa, necessitating a discontinuance of the medicine. The child's appetite was poor, his countenance pale, and his sleep disturbed at night.

December 1st. Two grains of iodide of potassium twice a day in milk were ordered, and an ounce of brandy during the day as a stimulant. From this time he began to improve in his general health, and the tumor to diminish in size.

December 21st. The circumference of his neck was three quarters of an inch less, and the tumor had softened so that three separate, hard glands could now be felt where before there was one hard mass. The iodide of potassium was increased to six grains daily; the tumor was rubbed with iodide of lead ointment, and was poulticed at night. There was constant improvement until February 2d, when he was discharged to continue the same treatment at home. At that time the tumor had diminished two inches in size, and he was in far better health and spirits than when he entered.

An examination of the blood just previous to his departure showed the proportion of white corpuscles to be normal.

November 13th. A letter was received from his father saying that while he

was doing well and the tumor still diminishing, he was attacked by diphtheria and died.

The points of interest in this case were the rapid diminution of size and hardness in the tumor, the great improvement in the general health, and especially the very great change in the proportion of white corpuscles in the blood, one microscopist who examined it saying that less than the usual number of white corpuscles in health were found at the time when the patient was discharged.

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#### LETTER FROM BERLIN.

MESSRS. EDITORS, — The sketch of a German medical doctorate may be of possible interest to your readers. It is one of those occurrences not given in the university calendar, nor does it usually find its way into the medical world through any official channel; it is left to the casual looker-on, who, as often happens, and certainly in this case, is a thorough foreigner. A year in Berlin, in daily intercourse with professors, privat-docents, assistants, and candidates, warrants me in giving the following curious description, even at the questionable indulgence of tedious detail. As one cannot be his own critic, in a truly logical or constructive sense, it is proper to add that the year was spent not only in daily association with the parties alluded to, but at the same time in almost complete abstinence from the society of American gentlemen at the university.

The *promotion* of a candidate for medical honors at a German university is distinguished by none of the characteristics of the American university or college commencement. There is no given day of a special week on which the medical student is graduated. An auditorium filled with admiring friends who applaud with the dangerous help of fans and flowers, marshals and music, prizes and valedictories, are unknown elements in a German university. The only public evidence of his graduation is the notice, in large Latin print, signed by the dean, whose name and that of the candidate are the only portions of the document in ink. This notice is nailed on a black wooden bulletin-box, which is spanned by a wire net-work and locked, and which hangs for a specified time in a specified place in the large vestibule of the university. Here it is open to the inspection of thousands of students from all quarters of the globe, of whom perhaps one twentieth of the matriculated medical students know the candidate by name. In other words, out of about two hundred and fifty medical students at the university, perhaps ten know or care about the doctorate of a comrade; such is a fair estimate of the actual publicity of a graduation. This applies as well to the departments of theology, law, and philosophy as to that of medicine. Ceremony is the distinguishing characteristic of the affair. Perhaps I cannot do better than to describe one of these scenes, in which I was invited to assist. Entering the main portal of the university you pass across the vestibule, where the shuffling and scratching of boots on the marble pavement announce the end of an hour. An orderly confusion, the interchange of salutations, a hurrying to and fro of hundreds of students suggests the occasion. At the left side of the vestibule is a room

about twenty feet square, furnished with sixty sitting places on all sides, like an American school-room. At one end opposite the entrance door is a high pulpit, and before it a smaller one, three feet lower. Three simple chairs stand unoccupied, perhaps six feet before the lower desk. On this occasion not over ten students, some law, some theological, few I knew to be medical, comprised the audience. At precisely half past eleven o'clock the dean of the medical faculty of 1876, Baron v. Langenbeck (so he signs his name to a matriculation certificate), enters the main door, dressed in a long magenta-velvet cloak, and cap of the same, and lavender gloves. Three young men, a Scotchman from the University of Aberdeen, a Frenchman from the University of Paris, and myself, opponents of three theses attached to the dissertation of the candidate, take the three chairs, while the candidate, who is to receive his diploma *in propria personâ*, enters the lower pulpit. He is an American gentleman of forty-five, a graduate of twenty years ago from Jefferson College, Philadelphia, who passed as number one into the surgical corps of the United States Navy, and is a member of the Royal College of Surgeons, London. With the three opponents before him he is in full evening dress. The five parties to the ceremony hold in their hands his "inaugural dissertation," which in this instance was in English, the five copies being elegantly bound; the dean and opponents retain the copies used by them as gifts from the candidate. Usually several hundred copies are printed in pamphlet, which are at the disposition of the candidate. The expense is borne by himself, and is between one hundred and fifty and two hundred and twenty-five thalers, according to the amount of lithographic work; a thaler is seventy-five cents in American gold. The laws of the university or of the government — for it is one and the same thing — provide one printer for this kind of work, making it impossible for the candidate to make his own selection. In addition to this dissertation, which up to about fifteen years ago was required to be in Latin, but is now usually in German, there is a short biographical sketch, with a notice of positions of trust, if there have been such, in Latin; also three topics, or theses, two in medicine and one in surgery, or *vice versâ*, in Latin also, which are to be combated by the three opponents and to be defended by the candidate. This is the style of inaugural dissertation in each of the four departments of philosophy, law, theology, and medicine. The ceremony — for it is simply such — was begun by the dean, who alluded to some point in the dissertation and commented upon it; the dissertation was not read in full. The dean was answered by the candidate, both speaking in German. It now became the part of the opponents to answer or argue against the three *de facto* propositions, or theses, for each one of which one was selected; the Scotchman opposed the first Latin thesis in English, the Frenchman the second in very bad German, while I opposed the only surgical one in English. The candidate responded to the opposition in the language in which it was given, the opponents, *of course*, expressing themselves satisfied with the proposition under such explanations. The venerable dean then ascended the higher pulpit, proclaimed in Latin the doctorate of the candidate, and gave him the oath and grip of the medical faculty of the university. The dissertation was admirably handled, its subject being that fruitful bone of contention among surgeons,—

Fractures of the Femur and their Treatment. Some very nice points were brought out, as, for instance, the mechanical play of the ligamentum ileo-femorale, known as Bertin's ligament; the axis of rotation of the thigh, which Hyrtl has found to lie not in the axis of the femur, but internal to that line; the nutrition of the head in fractures of the surgical neck, not depending, according to Hyrtl, on the artery supplying the ligamentum teres, but, like that of the cornea, depending on a scanty serous transudation, — for the artery has been found not to penetrate the head of the bone, but, on reaching it, to return again. This general anatomical comparison is good, so far as the mere structure and course of the respective arteries are concerned, namely, that to the head of the femur and those to the cornea. Neither has, strictly speaking, arterial blood, nor, of course, the other factors of a complete circulation. A wide difference, however, enters into the clinical course of injuries to each, dependent at the same time on the circulation. A separated femoral head (Hyrtl) continues to be freely nourished by the serous effusion following trauma; an *ulcus interstitiale* or an *ulcus serpens corneæ profundum*, after passing definite stages of progression, destruction, and rest, enters stadia of retrogression and cicatrization by new vessels coursing towards its borders, these new vessels coming not from the recurrent net-work at the corneal border known as the anterior and posterior conjunctival arteries, but according to Arnold and Recklinghausen from the episcleral arteries, which are entirely superficial. But it is unnecessary to enter into this field here.

The English and Latin of the ceremony were presumably good. The expense of the printing and the dress were simply to conform to the demands of form. If I may use the language of German criticism in analogous cases, — not a judicious and perhaps a discourteous method of argument, — the expense is a swindle and the ceremony is a farce; it was the most complete farce I ever witnessed, simply because so dignified and shallow. If America errs in showy commencements, with *éclat* and spread-eagleism, the Germans go as far to the other extreme in the stupidity of mode and in the submission to form. It would never do for a dashing Prussian hussar, for instance, to promenade in the fashionable Unter den Linden without slapping his scabbard on the asphalt at every step; the café courts his custom; it dignifies the establishment if his firmly set spurs send a metallic echo through the rooms, or his loosely hung sword tells by its jingle the number of buckles and springs of its trappings, and the head waiter knows that all this promises an extra groschen in the hand.

It must be remembered that the candidate has long before sent in his name to the university quæstor, asking an examination when the faculty has a sufficient number of applicants, not less than three nor more than six; he receives an order from the same officer to appear at a certain hour at the house of the dean, where he spends, with four professors, several hours in oral and written examination. The candidates are policed by the private servant of the dean, a man in livery, while all precaution has been taken to remove every source of medical information. As Germans religiously believe in eating and drinking with their work, a fine collation usually occupies the long centre table of the room, with Bordeaux and Rhine wines, which the gentlemen appropriate

at option. I have heard of some vile fellows who bribed the servant to bring up extra flasks of wine from the dean's cellar, an unusual exhibition of medical larceny. The same candidates are summoned several times before different groups of four professors, until the whole list of examiners is exhausted. Sometimes a candidate is allowed two trials. The examinations occupy several weeks, not unfrequently six months, and are by law in German, and hence exceedingly difficult for a foreigner. To such, however, a proper allowance is made. While the technical questions and answers must be in German, the professors are willing to explain in French or Latin, if the candidates prefer. Few of them are on speaking terms with English. I am told that Virchow, in pathology, is one of the severest examiners in this university, and that from sixty to eighty per cent. of candidates fall through his hands.

One word in regard to the length of time of study demanded of the medical student and its style of prosecution, and I will close this sketch. Since the establishment of this university by Friedrich Wilhelm III. in 1809, and until the proclamation of the German Confederation in 1841, the medical student was required to have spent nine years in a *gymnasium*, and to produce his certificate of final examination. Since Herr Falk, the cultus-minister under Prince Bismarck's chancellorship, assumed the department of education and ecclesiastical affairs, the medical student is entitled to study for a degree after successfully passing through the *realschule*. In gross, the difference in requirements consists of less Latin, Greek, and pure mathematics; more French, English, natural history, and natural sciences. If, however, the proficiency in the other branches is no more than my acquaintance with it leads me to suppose with regard to English, the *realschule* is not an adequate supplement to the gymnasium. My large acquaintance with Prussian students in Berlin causes me to estimate their grammatical knowledge of the English language as inferior to the knowledge of French acquired by the American student. The medical student is required to take lectures in logic and the philosophy of history in his first medical year, and later is examined in these branches.

Every medical student is a graduate of a gymnasium or *realschule*, where he has studied the classics and higher mathematics, as American students do at college. In the classics he learns to write and converse, more in Latin than in Greek. In mathematics the gymnasium does not attempt so much as the American college. In pure mathematics, however, the student is thoroughly drilled. Such branches as astronomy and mathematical optics belong rather to the university or to special schools. With such a foundation he takes an examination making him eligible to study medicine. Four years — two semesters, or terms, to the year — are devoted to medical studies before he can practice medicine, as we say, and which is the fact, but as the Germans say, before he can take his state's examination. It must not be forgotten that these men are servants of the state; it is to the state that in after-life they look for honors. At the end of three years they may present themselves for the so-called "doctor examen," which, however, is not in the same sense as ours, their "staats examen" being their final one, analogous to our final and only examination. This latter is known as the "*rigorosum*," and a successful pull-through entitles the applicant to be "*magister medicinæ, chirurgæ, et obstetri-*

cæ." Three grades of proficiency are known: the highest is classified as "magno cum laude;" the second, "cum laude;" while the omission of any qualification characterizes the lowest degree of proficiency, and implies that the candidate has simply passed.

The system of *courses* of lectures does not obtain here. In four years, or eight semesters, the student gets all that he will be examined upon, or, in other words, the whole curriculum of medical studies. In this way the same students remain, as a rule, the whole time at the same university; that is, those who propose to be graduated. The year begins with the fall semester in October and ends with the summer one in July; there is a long vacation between the semesters, usually from the middle of March till the first of May; the professors are never ready for work until two or three weeks of the beginning of a semester have gone by, and vie with each other to close their lectures as much short of the published time; at Christmas the university is closed for three weeks. To Easter, Resurrection Day, Penitence Day, and Whitsuntide liberal grants of time are made, so that in actual work one may reckon seven months of the year; certainly not much more public work than that found in the best medical schools of the United States.

How does the German student study? That is a question I cannot satisfactorily answer, for I never saw one hard at work, bending his energies to a given task, doing so much to-day, expecting to do so much to-morrow, and so on. The system of instruction being on the university as contradistinguished from the college plan, he listens to lectures, following no text-book. As a rule, he takes notes in ink. He is attentive and always respectful. Perhaps he remembers that the *state* is before him in the person of the professor. Between one and three o'clock in the day he may be found at home on the sofa, this article of furniture being a specialty in students' rooms in Berlin. After seven in the evening he is usually found in a *kneipe*, or beer saloon, with his colleagues. Several students arrange together to spend their evenings in that way till ten o'clock, after which hour the houses of Berlin are locked to public use. Students consult whether they will have light or dark beer, frequent a *lokal*, talk, and play a light game of cards till the hour of separation, to renew the scene again twenty-one hours later. They are noisy but not troublesome, and their patronage is usually characterized by a well-known insufficiency of waiters' fees. Here they compare notes, lampoon the faculty, and study, if it may be called so, in a peripatetic, argumentative way for four years. As the examinations are forbidding, they are then found at home of evenings, either rushing through their books or discussing intelligently the lectures of the semester. I do not wonder at the length of time devoted to the work. The German student expects to go along slowly and comfortably. He knows there is time enough, and the instruction is the best the world can offer. He is quite right as to both conclusions, though conceited in his view about the second. Accustomed to dilatory habits in his professors, not fearing a quiz, with no stimulus other than his love for medical studies, he lets himself be lectured to, day after day, until it becomes time for him to meet an examination. Daily work in the quiet room, recitations, and a systematic quiz are not in his *régime*. It is only a familiarity with the quiet of German life, with

its few luxuries, and its faith in the enjoyment of the moment that can make such a sketch appreciable. In bustling, ambitious America it would typify a torpidity of thought, stupidity of existence, and a view of life materialistic if it did not merit the name of philosophic. Such is the average German medical student, whose manner of living is as unwelcome to the foreigner as his advantages are coveted.

A system of six weeks' courses has been organized this year in Berlin to retain, if possible, the great numbers of German and foreign students who go to Vienna to develop themselves in special directions. Since the famous days of medicine in Paris, Vienna has become the centre of the medical world of Europe. Berlin has been losing in numbers, on account of this systematic and concentrated but in many respects faulty system of study. A large number of the faculty, privat-docents, and assistants have organized courses, distinct from official instruction, which began with the middle of March and will continue until May. Some of the best names of the faculty are upon the list while some of the most popular specialties are the least represented. Of the latter are the courses in physiology, diseases of the nervous system, otology, diseases of the mouth and teeth, electro-therapy, dermatology, and syphilis. The largest representation of teachers is in the department of state medicine and hygiene, the latter embracing microscopic as well as macroscopic examinations. The course on normal histology by Orth lasts two months, while Langenbeck, as for a few years past, continues his valuable course of surgical operations on the cadaver at six o'clock in the morning through the summer semester.

For a first effort the plan is an extensive one, but will undoubtedly bear improvement. Its disadvantages are that the time is restricted to but one part of the year, whereas in Vienna courses are in operation every day in the year. Another serious objection is found in the concise sentence at the end of the prospectus, namely, three hundred marks (about seventy-five dollars) must be guaranteed by each class of students at the beginning of the course, classes to consist of not more than from ten to twelve. Foreigners will recognize a characteristically German style of business in this codicil, and German students will be the first to run away from it. Yours truly, MED.

BERLIN, *March 31, 1877.*

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#### KNOT IN THE UMBILICAL CORD.

MESSRS. EDITORS, — October 29, 1876, I was called to attend Mrs. J. S. W. in her fifth labor, the previous ones having been natural. At this time all went well till about the commencement of the second stage, when she complained of the excessive motion of the child, and such motion was very apparent to the by-standers. It ceased, and the child was born without anything to complicate matters, but it was born "still," nor could I establish respiration, although I tried quite a long time. On searching for the cause of the death of the child, I found a knot in the umbilical cord, at about one foot from the placenta. The cord was very long (four feet and ten inches by actual measurement) and was wound about the body and limbs of the child. I could not tie the cord so firmly as this was tied. It was completely constricted at the point, and of course no blood could pass. The mother noticed the stoppage of the motion of the child about an hour before its birth. I have not noticed this state of things as being spoken of in any of the books. The mother did well.

D. E. WELLS, M. D., Bethlehlem, N. H.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 28, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	480	23.17	27.46
Philadelphia	850,856	297	18.15	22.88
Brooklyn	527,830	221	21.77	24.31
Chicago	420,000	129	15.95	20.41
Boston	363,940	158	22.58	23.39
Providence	103,000	31	15.65	18.34
Worcester	52,977	16	15.71	22.00
Lowell	53,678	25	24.22	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370	14	14.45	22.04
Lawrence	37,626			23.32
Lynn	34,524	20	30.12	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	12	23.34	23.57

SUFFOLK DISTRICT MEDICAL SOCIETY. — At the annual meeting, April 28th, the following officers were elected: President, Charles D. Homans; Vice-President, Calvin Ellis; Secretary, A. L. Mason; Treasurer, A. B. Hall; Librarian, B. J. Jeffries; Commissioner of Trials, Charles W. Swan; District Nominating Committee, George C. Shattuck; Committee of Supervision, George H. Gay, Samuel A. Green; Committee on Social Meetings, Calvin Stevens, George W. Gay, H. I. Bowditch, J. P. Oliver; Censors, Thomas Waterman, Edward N. Whittier, G. G. Tarbell, A. M. Sumner, Thomas Dwight; Councillors, S. L. Abbot, James Ayer, H. H. A. Beach, H. J. Bigelow, H. I. Bowditch, B. Brown, S. Cabot, P. M. Crane, D. W. Cheever, Hall Curtis, H. Derby, F. W. Draper, C. Ellis, R. H. Fitz, G. H. Gay, S. A. Green, F. B. Greenough, A. B. Hall, G. Hay, D. H. Hayden, R. M. Hodges, C. D. Homans, John Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, F. Minot, F. E. Oliver, H. K. Oliver, John P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, J. E. Tyler, O. F. Wadsworth, C. E. Ware, J. C. Warren, James C. White, H. W. Williams.

ESSEX NORTH DISTRICT MEDICAL SOCIETY. — The annual meeting of the Essex North District Medical Society was held at Haverhill on Wednesday, the 2d inst. The following officers were chosen for the ensuing year: President, Dr. F. A. Howe; Vice-President, Dr. W. H. Kimball; Secretary and Treasurer, Dr. G. W. Snow; Corresponding Secretary, Dr. J. Crowell; Librarian, Dr. Sidney Drinkwater; Commissioner on Trials, Dr. W. H. Kimball; Councillors, Drs. G. W. Garland, C. P. Morrill, H. J. Cushing, J. Crowell, S. K. Towle, W. D. Lamb, E. Cross, R. C. Huse; Censors, Drs. J. C. Howe, E. P. Hurd, C. G. Carlton, O. F. Seavy, C. N. Chamberlain; Nominating Committee to State Society, Dr. G. W. Garland.

Dr. Eugene Howard, of Newburyport, on recommendation of the Board of Censors, was accepted as a fellow of the society.

The annual address was by Dr. E. P. Hurd, of Newburyport, on Neuralgia.

BOOKS AND PAMPHLETS RECEIVED. — I. A Report on the Percentage of Near-Sight found to exist in the Class of 1880 at Harvard College, with some Account of Similar Investigations. II. An Account of the Phakometer of Snellen. By Hasket Derby, M. D. (Reprinted from the Boston Medical and Surgical Journal.) Cambridge: Riverside Press. 1877.

Report No. 9 of the Channing Home for the Year ending March 31, 1877.

Two Cases of Oesophagotomy. By LeRoy McLean, M. D., Surgeon to the Troy Hospital. (Reported in the New York Medical Record.) West Troy, N. Y.: James Treanor. 1877.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A CASE OF HYDROPHOBIA.

BY EDWARD A. L. FRANÇOIS, M. D., SAUGUS CENTRE.

SAMUEL A. PARKER, fifty-three years of age, was bitten January 15th on the middle and ring fingers of the left hand by a stray spaniel which had been prowling around his premises. He made some sort of application to the fingers, saying that the dog had probably been starved and abused, but was positive that the animal was not rabid. (This dog was shot the same day, by the Lynn police, after biting two other persons in that city.)

I was called April 16th (ninety days after the bite). His wife stated that the day before he was in excellent spirits and ate supper as usual; in the evening he complained of pain in the arm, that he ascribed to rheumatism; he became restless and did not sleep that night. On inquiry I learned that he had had pain in the fingers since he was bitten.

In the morning the pain was more persistent; pricking and numbness in the hand were complained of; he had headache and was feverish; still nothing was thought of all this, as he was subject to frequent headache. At ten A. M. his wife proposed to make him a cup of tea, and then for the first time he noticed that he could not drink; repeating the attempt, he was obliged to desist because, as he expressed it, "it took his breath away."

After conversing with him, carefully avoiding all reference to the bite, to dogs, or hydrophobia, I mixed some bromide of potassium and offered him the tumbler; with face averted he took it, held it a few moments, carried it to his lips by a sudden hurried motion, gave a great gulp, jumping to his feet and walking around the room as if irritated; he tried it again twice, the last time turning to me in an angry manner, asking if I meant to force him to swallow it, but calming down immediately. Pulse 107.

I procured some curare, and at 8.30 P. M. gave half a grain hypodermically.

As he had had no nourishment but a piece of cracker soaked in milk, which he managed to swallow slowly, I tried to inject some egg and brandy per rectum; the spasm occurred simultaneously with the first

pressure of the bulb ; it was a mixture of sighing and sobbing most distressing to behold.

In thirty minutes he said he could breathe better. At 9.30 curare was repeated, and, as he complained of pain in the arm, half a grain of morphia was added. This enabled him to take pieces of ice, which he would put into his mouth with a hurried motion and always *under* his tongue, for that purpose asking for small flat pieces.

At twelve P. M. and 2.30 A. M. I repeated the curare with morphia ; he took ice much more freely, and seemed more comfortable in every way. Pulse 92. At five A. M. he vomited slightly. He had slept a few minutes at a time ; as he complained of being chilly, I threw a shawl over him ; the mere motion of it brought on a spasm ; fanning, the wind from an open window, or the shutting of a door had the same effect. I succeeded in injecting about two ounces of brandy and egg by very slow degrees, as the least extra pressure of the syringe would evoke spasms.

At nine A. M. pulse 112 ; repeated curare and morphia. At ten A. M. tried again to feed per rectum and failed, as the patient jumped up gasping. At eleven A. M. Dr. Calvin Ellis saw the case, and advised nitrite of amyl, which was tried with good effect, the continuance of the curare being agreed upon. One P. M., curare half grain. Two P. M., the spasms came oftener ; the patient walked more ; the gait was staggering. He complained of great pain in the arm. Curare and morphia half grain each. At three P. M. succeeded in injecting some brandy with about thirty grains of chloral hydrate.

As he seemed to become somewhat drowsy, I went away to obtain some rest. I was called back within an hour, and found him violent and delirious, the expression of the face being wild in the extreme. Speaking to him would bring him back to his senses for a moment, but he would quickly relapse into the same state, addressing those about him in an angry and violent manner. Five P. M., curare and morphia repeated.

A severe convulsion occurred at this time, and was quelled by nitrite of amyl, my supply of which being exhausted, I resorted to chloroform immediately after.

The fits came on about every three minutes, consciousness being completely abolished. While convulsed, the neck and chest became rigid, a long hissing expiration taking place, the pulse being gradually lost at the wrist ; after lying motionless for nearly thirty seconds, as if dead, suddenly there would be a deep inspiration followed by quick spasmodic breathing, the pulse coming back bounding and incompressible. The convulsion ceased gradually, merging into this spasmodic breathing. Death took place at about nine P. M., without a struggle.

About two hours before death, the saliva became profuse. I removed

it with a swab and dropped some water into the mouth without causing spasms, but there was no effort to swallow.

Thirteen or fourteen years ago the patient witnessed in a neighboring house a case of hydrophobia in a girl ten years of age who had been bitten by a black and tan dog. The case was under the care of the late Dr. James M. Nye, of Lynn.

Six years ago he became subject to occasional attacks of suffocation; they would last but a few moments and occurred apparently without any exciting cause; he felt "as if he could not take another breath." The most careful inquiry failed to discover any cause for this or any connection, however slight, with the case of hydrophobia he had seen.

The patient was of a quick temperament, but a man not easily frightened, and during the first stage of the disease he conversed rationally, and arranged his affairs quietly and without apparent excitement; there was nothing, in fact, that could be called hysterical in the remotest manner, no reference ever having been made by him or others to the bite or to any bad results likely to follow.

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## MASSAGE, AND ITS VALUE TO THE PRACTICING PHYSICIAN.<sup>1</sup>

BY DR. W. WAGNER, FRIEDBURG.

*Translated, with Notes,*

BY DOUGLAS GRAHAM, M. D.

THOUGH massage was partly practiced in the ages of antiquity, yet to Dr. Meztger, of Amsterdam, credit is due for having improved it in a physiological manner, and for having brought it to be acknowledged as a highly valuable method. The physicians of Norway and Sweden have used massage more than any others, and have brought to light a great number of favorable results. In France and England this new process of treatment has likewise found some representatives. Until quite recently, however, but little use of massage has been made in Germany.<sup>2</sup> Our military surgeons have employed it most frequently in acute cases,<sup>3</sup> as it is amongst these that they find cases best fitted for such treatment.

To give a notion of what is meant by massage and its effects, we can say in the words of Berghman and Helleday that *it will simultaneously further and increase resorption, accelerate the circulation, relieve pain, and reduce elevated temperature.*

<sup>1</sup> Berliner klinische Wochenschrift, November 6 and 13, 1876.

<sup>2</sup> In the Wiener medicinische Wochenschrift, No. 45, 1875, Billroth says, "I can only agree with my colleagues, Langenbeck and Esmarch, that massage in suitable cases deserves more attention than has fallen to its lot in the course of the past ten years in Germany." — G.

<sup>3</sup> In joint contusions and distortions, sprains.

Concerning the minute subdivisions of massage by many French authors into *effleurage*, frictions, *petrissage*, *sciage*, *fouillage*, *pincement*, *malaxation*, percussion, *hachure*, *claquement*, vibrations, etc., we will say that most of them may be left out of account, and we may rest satisfied in accepting four different manipulations as belonging to massage: (1) *effleurage*, stroking; (2) *petrissage*, kneading; (3) passive and active motion; (4) *tapotement*, tapping or percussion, which is very proper for tissues of loose consistency. The discrimination of these four different kinds of massage will be quite enough for the physician. The *effleurage*, stroking or friction, comes particularly into use in the acute stage of inflammation, and it is done thus: after oiling the parts the upper half of the inflamed region is stroked from the periphery, in order to empty the superficial veins and lymphatics and so make room for their returning currents. The friction must be extended in a centrifugal direction so as by degrees to come upon the affected parts. Here one will make direct pressure upon the tissues. By this the effusion or inflammatory products will be squeezed into the lymph vessels and by them absorbed. The circulation of the blood is also influenced, for by the emptying of the superficial veins a more rapid stream sets in after raising the hand. By the mere pressure of the stroking hand, as this is in the direction of the returning current, a new mechanical power will be added to the blood stream in the superficial veins, which will naturally favor the more distal stream in the capillaries and small arteries. The cutaneous and vaso-motor nerves are also mildly irritated in this manner; a narrowing of the lumen of the arteries will occur, and consequently a relative increase of speed of the current in them. Let the same irritation become stronger, and we obtain a relaxation of the muscular coat of the arteries, yet a slowing of the blood stream will not be produced by continued manipulation. Here, then, we have circumstances favorable for resorption, namely, enlarged vessels with stronger and swifter current in them.

Through these direct influences upon the lymphatics and blood-vessels, resorption of the effusion will be hastened; at the same time the swelling and elevated temperature will be reduced. The pain will also be diminished by freeing the sensitive nerves from the pressure upon their terminal filaments. With still greater power will the parenchymatous exudation be driven into the lymph vessels by skillful kneading, especially if at the same time the lymph and blood streams are hastened by a centripetal rubbing.

The *petrissage*, or kneading of a joint or other part of the body, be it a muscle, or large ecchymosis into the subcutaneous cellular tissue, should be begun by circular rubbing with the ends of the fingers or with the whole hand; then pressure should gradually be made according to the firmness of the exudation and with due regard to the painful places.

These manipulations may be done with both hands simultaneously, or, what is better, with one hand we may knead and with the other do the centripetal stroking. By kneading, the exudation will become more fit for resorption, as a crushing of the elementary parts of the same takes place. Especially is this seen in the treatment of chronic rheumatic joint inflammations. The hyperplastic tissue will be broken up, the contents of the newly formed blood-vessels will be extravasated, and later the vessels themselves obliterated, whilst the crushed mass, either with the extravasation or later in the form of fatty detritus, passes into the lymph stream. Although one can attack or destroy by these manipulations, only the superficial strata of the exudation or the inflammatory new formations with their blood-vessels, yet the deeper-lying mass will be reached indirectly by the extension of the pressure. The more the contained fluid of the affected mass, the greater will be the value of the hydrostatic transmission of the pressure.

Of great aid to the above-mentioned manipulations are, from the beginning of the treatment, gently exercised active and passive motions, the effects of which, besides accelerating resorption, are as follows: (1.) The prevention of inflammatory stasis. (2.) Loosening old adhesions and preventing the formation of new ones. (3.) Favoring the entrance of diseased fluids into the lymphatics by changes in the relations of pressure in the different parts of the joint, for the power of pressure can be of value only in the direction of the centripetal stream on account of the valvular condition of the lymph vessels.

The fourth category of massage, *tapotement* so-called, is a simple percussion of the affected parts either with the palm of the hand, the fist,<sup>1</sup> a little hammer or other similar instrument. By this means one seeks principally to influence the affected nerves or their terminations. In what manner the massage acts in this case is not quite clear. In a number of cases it did well in promoting absorption of the exudation from around the nerves. At the same time one can bring into use with good effect the previously mentioned manipulations. In other cases, particularly in neuralgias, percussion may bring about changes in the nerve, producing a temporary stunning which may serve the purpose of definite cure. In paralysis, also, in consequence of general disturbance of nutrition, the effect of these manipulations will be to nourish the affected nerves.

In enumerating proper cases for treatment by massage I will especially present those which are of importance to the practicing physician.

<sup>1</sup> Much more delicate and agreeable and often more useful percussion is done with the tips of the fingers united, or with the ulnar borders of the hands. In the latter case it is sometimes well to separate the fingers so that their adjacent edges may strike against one another like a row of ivory balls. — D. G.

In the first place come joint contusions and distortions,<sup>1</sup> and effusions of blood and serous inflammations connected with them. We know how obstinate this kind of injury often is in spite of the most careful treatment with leeches and lead water, rest, and plaster-of-Paris dressing, how very often the patience of physician and patient is put on trial. Since I have used massage I have cured all the cases which have presented themselves to me in an astonishingly short time, and as yet have seen no tendency to relapse. With regard to the manner of proceeding in these cases I have adhered to the directions of Meztger, and will now bring forward a sprained ankle and its treatment: —

By a jump or misstep a man suddenly experiences a violent pain in one or both ankles; he limps home with difficulty. Arrived there he finds around one or both malleoli marked swelling and pain; it is no longer possible for him to walk. Here, then, we have to deal with a superficial capsule or ligament rupture with moderate effusion of blood. If one is called at this time, before the effusion of blood has added to it serous effusion, the prognosis is extremely favorable.

After oiling the limb, attempt by stroking with both hands in a centripetal direction to empty the superficial veins and lymphatics so as to make more space in them for carrying off the effusion below. Then with gentle rubbing continue to approach the injured parts. These at first are somewhat painful, but stronger pressure can gradually be made upon them. Circular rubbing should then be added, whilst simultaneously with the other hand the vessels above should be emptied. When the centripetal and circular rubbing have been continued for about a quarter of an hour passive motion is then added, and finally the patient is told to move the foot.<sup>2</sup> The sufferer is usually astonished to find how little pain is left, and how well he can move the joint; he thinks he can at once go about upon it again. It is well now to apply a bandage, and change it every four or five hours. I do not permit such of my patients as can walk upon the injured limb, as most of the operators with massage do, for I believe that in severe cases it is expecting too much of torn ligaments infiltrated with blood. In two cases which I treated, one kept the horizontal position for a short time to begin with, and recovered speedily and favorably; the other, contrary to my wishes,

<sup>1</sup> "The consequences of distortions and chronic rheumatic joint inflammations yield to the usual methods of treatment so slowly that one must be glad to have such a method as massage at his disposal; with this they come to an end comparatively quickly." (Billroth, Wiener medicinische Wochenschrift, No. 45, 1875.) — G.

<sup>2</sup> Much more effectual than the circular rubbing to alternate or use with the upward friction is the *petrissage* or *malaxation*, done by grasping the limb with the whole hand and exercising a rotary upward kneading without allowing the hand to slip. To gradually increase the strength of the muscles for walking, as well as the patient's confidence, after time for repair has elapsed, there is nothing so good as acto-passive motion, alternately resisting flexion and extension, while keeping the resistance less than the strength of the limb, so that the patient may not recognize his weakness there. This is particularly useful in old sprains. — D. G.

walked about after the first manipulation, in consequence of which a considerable effusion into the joint followed. In the latter case there was probably a partial or entire rupture of a small capsular artery. When possible, the massage should be applied twice daily, as by so doing a more speedy cure will be obtained. A few days generally suffice in light sprains to restore the joint to its normal condition.

The conditions are similar in the knee-joint, only that the effusion of blood is much more considerable, and serous exudation quickly takes place, especially if at the same time a luxation of the patella be present. The energetic use of massage causes these effusions to be absorbed with wonderful rapidity. I have seen such patients with knee-joint distortions attended with marked effusion of blood, who on the day of the injury had the leg immovably bent, the joint distended with effusion, and were whimpering with pain and confined to bed, get up in eight days and go about their business at the end of twelve days. In most of such cases it is quite remarkable that after and sometimes even during the first sitting the violent pain is much lessened and rarely returns.

With effusions of blood into the muscles and subcutaneous cellular tissue energetic massage is indicated, and it usually leads to a speedy cure, as I have several times seen.

With fractures in and about the joints, or with luxations, though the diagnosis may be doubtful by reason of the effusion or inflammatory swelling, massage does well for a day or two at first in dispelling the effusion or swelling.<sup>1</sup>

Amongst acute inflammatory affections may be mentioned mastitis, which at its beginning can be relieved by the use of massage. Of course, one would not use this treatment if suppuration had taken place. But the cases seen on the first day of the trouble are those in which massage does well. It is best done by raising the gland with one hand and exercising the manipulations with the other, from the periphery to the centre. By thus elevating the gland the backward flow of the lymph and blood stream is favored. After practicing massage I bind up the breast, at the same time making use of a compress. After one or two sittings the pain is nearly always abated, by degrees the swelling goes down, and usually in a few days the patient is preserved from the danger of a suppurating breast. A certain length of time naturally in-

<sup>1</sup> And thus it would also become a valuable aid to diagnosis. For a skillful manipulator can perceive slight changes of flabby tissues growing firmer, or an abnormally rigid group of muscles becoming more supple and elastic, and thus sometimes foretell improvement before the patient feels it.

The "hide-bound" condition so observable in horses, if sought for, will also be found in persons who suffer from nervous depression and lack of energy. By the use of massage it is not only detected but also most happily relieved, when no organic trouble is the cause. — D. G.

tervenes before all remaining hardness in the gland disappears. The conditions for the repression of an inflammatory affection are exceedingly favorable in these cases, as we frequently see when no treatment has been employed; yet it is just on that account that we have in massage an effectual means to aid or imitate those occasional spontaneous recoveries.

Among chronic ailments are in the first place joint affections, and these of the most diverse forms. More patience is required in the treatment of these than with acute cases, yet the desired result is certainly obtained much more speedily than when the usual methods of treatment are employed.

With chronic serous synovitis one can usually proceed as with the acute. In the hyperplastic form of joint inflammation the kneading must be practiced with greater force. In this case the inflammatory new formation is crushed and made more fit for absorption. In order to hasten this process, active and above all passive motions should be employed; indeed, they should never be omitted in the treatment of any chronic rheumatic joint inflammation.

Many advocates of massage reject entirely forcible stretching under anæsthesia, because frequently in consequence new adhesions arise which are even more difficult to break up than the old ones. Others prefer to use violent extension occasionally only. For a short time at least, I think, one should attempt with more or less powerful passive motion to loosen the adhesions, and if this does not succeed, then more forcible measures can be resorted to. However, in such difficult cases we must be well satisfied if we get a useful limb out of an immovably bent, useless one.

Further use of massage is made in muscular rheumatism. In light, recent cases one or two kneadings usually suffice to cause the pain to disappear entirely. Old and difficult cases naturally take longer. On the whole, rheumatic patients are very much pleased with massage, as after the first sitting considerable diminution of the pain and an agreeable feeling of warmth and comfort is felt. In lumbago<sup>1</sup> a speedy cure often results from strong kneading and clapping, which almost at once call forth improvement.

*Tapotement*, or percussion, is particularly useful in peripheral paralyses and neuralgias. At the same time, if possible, the affected nerves should be stretched and kneaded, in order to aid in the removal of the hyperæmia or exudation, if such be present. My experience in this department, however, is yet limited. In three cases of sciatica, I obtained in one recent case a cure in ten sittings; in another of fourteen

<sup>1</sup> M. Martin, of Lyons, cured M. Petit of a lumbago which prostrated him, by massage for five minutes. M. Martin has collected over a hundred cases of a similar kind. (*Estradère du Massage*, pages 108 and 142.) — G.



days' standing amelioration after twelve massages, whereupon the patient left off, and sought by means of baths to get further benefit; in a third case, which was of some six weeks' duration, I got no result whatever from fifteen sittings, and as the patient was tired of being continually knocked and beaten, he wished to be treated in some other way. In spite of the employment of almost every other means, and amongst these the continued current, the disease lasted four months before he was perfectly well. A case of supra-orbital neuralgia<sup>1</sup> was in eight massages very much improved.<sup>2</sup>

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## RECENT PROGRESS IN OTOTOLOGY.

BY J. ORNE GREEN, M. D.

*The Anastomoses between the Circulation of the Tympanum and that of the Labyrinth.* — The recognition of the anastomoses between the blood-vessels of the tympanum and those of the labyrinth has been heretofore accomplished by injections of the brain through the internal carotid artery, in which it was found that the injected mass entered the blood-vessels of the labyrinth and also those of the tympanum proper, and hence an anastomosis between these two circulations was considered as established. Pathological anatomy also proved so strongly a connection between these two systems that the anastomosis had been almost universally accepted. This anastomosis had been supposed to be through the fenestræ of the labyrinth wall.

Politzer,<sup>3</sup> shows that the method of injection used was of no value in proving the connection between labyrinth and tympanum, because the injected mass could enter the tympanum through the tym-

<sup>1</sup> A gentleman, aged sixty, in ordinary good health, came to me with supra-orbital neuralgia, which had troubled him for a year in spite of sedatives, tonics, liniments, and electricity. I gave him nine massages in three weeks. He was much improved, and the slight pain which remained disappeared without further treatment in a few weeks. I used no percussion in this case. — D. G.

For two cases of severe neuralgia of long duration, one of the trigeminus, one of the ulnar nerve, and a case of coccydynia of more than two years' standing, which were cured by massage, see the New York Medical Journal, July, 1875.

<sup>2</sup> As practice in the manipulations, time, perseverance, and personal interest in the matter are necessary, and these one cannot bestow who interests himself much in surgery or medicine, I have turned over to my old experienced surgical assistant, Dr. Dominico Barbieri, suitable cases for massage. He has already obtained a series of results, both favorable and surprising, far exceeding my expectations of this method of treatment. (Billroth, Wiener medicinische Wochenschrift, No. 45, 1875.) — G.

Dr. Von Mosengeil, of Bonn, at the close of a long article on massage, gives the following estimate of its availability: Its value must be recognized, though the best results will be obtained by the few who bring to its use abundance of time, patience, skill, and strength. It is not adapted for every-day use by every physician, nor will it be much used in hospitals from lack of time. Specialists, therefore, will probably get the most satisfactory results from it. (Archiv f. klin. Chirur., xix. 4, 1876.) — G.

<sup>3</sup> Wiener medicinische Wochenschrift, No. 30, 1876.

panic artery given off from the internal carotid. He has succeeded in demonstrating the anastomosis, however, and finds that it takes place directly through the osseous wall, separating the labyrinth and tympanum. His method was the following: a fresh preparation after being treated with perosmic acid was decalcified in dilute muriatic acid, hardened in alcohol, and cut into sections. The examination of these sections showed a direct connection between the blood-vessels of the tympanum and those of the labyrinth.

*The Aquæductus Vestibuli.* — Rüdinger<sup>1</sup> has investigated the canal in the temporal bone, known as the aquæductus vestibuli, for the purpose of proving the observations of Cotugno, made more than one hundred years ago, that it is a lymph space ending by a blind sack attached to the dura mater at one end, while the other end communicates with the vestibule of the ear. He found, in many cases lying between the dura mater and the bone, closely adherent to the former, a bladder-like cavity from which a canal passed up towards the vestibule and then divided into two canals. In the fœtus he was able to trace the connection of the aquæductus with the sacculus hemi-ellipticus of the membranous labyrinth, but could not make out with certainty the connection with the sacculus rotundus. Whether the cavity of the aquæductus is filled during life with fluid, thus allowing variations in the pressure of the endolymph of the vestibule, as has been claimed by Weber-Liel, Rüdinger considers doubtful. In regard to the existence of perilymphatic passages in the aquæductus, he acknowledges the existence of openings of various sizes which might be considered as lymph spaces, but he has been unable to discover an endothelium on their inner surfaces or a distinct membranous boundary.

*On the Limits of the Perception of Tone.* — Preyer<sup>2</sup> has settled by his experiments more accurately than has been done heretofore the limits of perception of tone. Without explaining the methods used, which would require more space than can here be given, it is of interest to note his results. A perfectly absolute limit to the number of vibrations cannot be given, as it is found that there are slight individual differences. The lower limit he gives as follows: with 19 or 20 vibrations in the second many persons can perceive a distinct tone; with 23 or 24 vibrations all normal ears perceive the tone. The upper limit was more variable in different persons than the lower: some ears, apparently perfect, were deaf to 10,000 or 12,000 vibrations per second, while others could perceive the musical character and distinguish the octaves up to  $c^{vii}$  or 16,384 vibrations, and perceive a slight tone with  $e^{ix}$  or 20,480 of König's rods.

The delicacy of distinguishing the height of tones is still more varia-

<sup>1</sup> Zeitschrift für Anatomie und Entwicklungsgeschichte.

<sup>2</sup> Preyer's Physiologische Abhandlungen, page 1, Jena, 1876.

ble and very dependent on practice. This delicacy is most marked in the middle scales, that is, those within the common musical scales, and especially between  $a^i$  and  $c^{ii}$  where a third of a vibration can be distinguished; above and below these limits the delicacy of perception diminishes, possibly from want of practice.

The perception of intervals Preyer gives as follows: With the fourth a deviation of  $\frac{1}{10}-\frac{1}{30}$  was easily recognized, with the fifth  $\frac{1}{30}$ , with the minor sixth  $\frac{1}{30}$ , with the major sixth  $\frac{1}{10}$ , with the major third  $\frac{1}{20}$ , with the minor third  $\frac{1}{10}-\frac{1}{30}$ . With the octave the sensibility is very great: for the higher tones,  $\frac{1}{200}$ ; for the lower,  $\frac{1}{10}$ . These figures apply to the middle scales; for the higher and lower the sensibility is less.

Preyer also discusses the perception of silence, which he considers is a true perception, analogous to the perception of black by the eye.

*Anomalies in Taste and Saliva as the Result of Purulent Inflammation of the Tympanum.* — Among the numerous connections of the ear with other structures not concerned in audition, not the least interesting is the existence of the chorda tympani nerve, a branch given off from the facial within the Fallopian canal, which passes directly through the tympanic cavity, between the ossicles, and then down to join the glossopharyngeus nerves to be distributed on the anterior edge of the tongue. The influence of the chorda tympani on the perception of taste and feeling in the anterior two thirds of the tongue has already been determined by physiological experiments and observations, but Urbantschitsch<sup>1</sup> has undertaken, by observations on a large number of persons suffering from purulent inflammation of one or both tympana, to determine the frequency of affections of the taste, and thus to study the pathology of this nerve.

He first determined the normal taste-perceiving spots by careful experiments with salt, sugar, acetic acid, and quinine. These he found to be the posterior wall of the pharynx, the uvula, the arcus palatoglossus, the hard and soft palate, the surface, edges, and base of the tongue, and the mucous membrane of the cheek. In fifty cases of purulent otorrhœa he found anomalies of taste in forty-six. He found the capability of perception of taste varied very much: in thirty-eight of these cases it was diminished, in three of them increased, and in the remaining five it was increased in some spots and diminished in others. In addition to the disturbances of taste twenty-four of these cases showed change in the sensibility to touch on the affected side of the mouth, while in the remaining cases no such change could be discovered: this Urbantschitsch refers to changes in the nerves of sensibility, which are affected as well as those of taste. The frequency of these disturbances on the same side as the affected ear, the fact observed by

<sup>1</sup> Wiener medizinische Presse, No. 23, 1876.

Urbantschitsch in two cases, that as the disease of the ear improved and healed, the disturbances of taste and feeling also improved and finally disappeared, and lastly the well-known physiological fact that by irritation within the tympanic cavity sensations of taste and feeling can be excited in the corresponding side of the mouth and pharynx, all point to the disease of the ear as the cause of the anomalies observed.

The points at which the perverted perceptions were noticed in these cases were not only the anterior two thirds of the tongue, where the chorda tympani is distributed, but also the root of the tongue, the arcus palato-glossus, and the soft palate, in reality the regions supplied by the glosso-pharyngeus nerve; and in connection with this fact Urbantschitsch directs attention to the tympanic plexus, which is an anastomosis within the tympanum between the glosso-pharyngeus and trigeminus; by the irritation of this tympanic plexus he was able to excite sensations of taste.

Another pathological condition observed with purulent tympanic inflammation, and also as the result of the application of medicaments to the tympanic cavity, was a marked increase in the secretion of saliva. This was noticed in a case of polypoid growth situated on the upper periphery of the membrana tympani, directly over the course of the chorda tympani, and in another case as the result of touching the inner wall of the tympanum with nitrate of silver. In the former the increased secretion was referred to an irritation of the chorda tympani, in the latter to an irritation of the nervus petrosus superficialis minor through the tympanic plexus, both branches of the trifacial nerve, which has been proved by experiments of Cl. Bernard, Ludwig, Rahn, and others to furnish the secretory nerves to the salivary glands, namely, the chorda tympani to the submaxillary gland and the lesser superficial petrosal nerve to the parotid gland.

Finally Urbantschitsch calls attention to the fact that it is possible to excite the salivary glands from the inner wall of the tympanic cavity by irritation of the tympanic plexus alone, the parotid being reached through the lesser superficial petrosal nerve, the submaxillary through the nervi carotico-tympanici sympathici, and the other glands through the nervus tympanicus glosso-pharyngei.

*Operation for Exostosis of the Meatus.* — Mathewson<sup>1</sup> reports a case of exostosis of the auditory meatus successfully removed by a new method, which is of special interest as the treatment of such cases has been heretofore particularly unsatisfactory and unreliable. The patient, a delicate woman aged twenty-five, was first seen in 1873, when there was an exostosis on the posterior wall of the meatus largely occluding that passage; no otorrhœa existed. Two years after she began to experience a sense of pressure in the head, had attacks of loss of conscious-

<sup>1</sup> Report of the First Congress of the International Otological Society, 1876.

ness and other cerebral symptoms. The exostosis was found to have almost entirely occluded the meatus, and its removal was advised.

The operation was performed by means of an Elliott's suspension dental engine with square drills made from fissure burrs. Under ether the integument over the growth was circumscribed and scraped off with a dental scaler; the bony growth was then perforated at several points near its centre with the smallest of the drills, about one and a half millimetres in diameter; the larger drills, two and a half and three millimetres in diameter, were then used to enlarge the perforations, to run them together, and to ream out the meatus. But little pressure was required, and the growth was perforated without difficulty and the meatus enlarged to nearly its normal size. Frequent syringing was used to remove the blood and débris, and the operation required twenty to thirty minutes. Granulating and soft tissues filled the meatus for some weeks after the operation, but these gradually thinned down under the application of nitrate of silver, leaving the meatus of nearly full size except at one point where a thin remnant of exostosis projects. The discharge ceased entirely and the hearing rose to nearly the normal standard.

No mention is made of any necrosis resulting from the operation, nor was the pain more than could be readily relieved by the warm-water douche and moderate doses of opium.

Considering the serious symptoms often produced by these growths, not only to the hearing but the life of the patient, their extreme hardness and their confined position, the success of the operation used by Dr. Mathewson is well worthy of further trial. Mathewson considers that the dental engine has the advantage over hand drills in perforating dense bone, that it is less tedious, less dangerous from the rapidity of the revolutions, perforating rapidly, with little pressure, and consequently with less risk of slipping and injuring the deeper parts. It also allows of better illumination and inspection.

(To be concluded.)

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## PROCEEDINGS OF THE PROVIDENCE MEDICAL ASSOCIATION.

VIRGIL O. HARDON, M. D., SECRETARY.

NOVEMBER 4, 1876. *Laceration of the Cervix Uteri.*—DR. GEORGE W. PORTER read a paper on the laceration of the cervix uteri. He said that laceration did not refer to those little notches about the os externum which were almost physiological in parous women, but to those extensive ruptures, of such grave pathological significance as to call for surgical interference. This lesion is one of the most common, though often unrecognized, that we meet with in the treatment of the diseases of women.

What diagnosis is more often made than "ulceration of the neck of the womb"? yet nearly all these cases are laceration of the cervix uteri; the two torn lips, being everted and abraded, give from their appearance ground for the diagnosis of ulcer.

Of ulcerations of the neck there are two forms: (1.) Slight abrasion of the epithelium, presenting a reddened and papillary surface, small in extent, often due to irritating secretions. (2.) More obstinate cases, reaching laterally, often beyond the vaginal junction, with a well-defined outline, presenting a raw, angry-looking surface covered with exuberant granulations bleeding at the slightest touch. The cervix is invariably large and abnormally patulous, and gives forth an abundant muco-purulent secretion.

Is not this a familiar condition of the cervix? This is not properly ulceration, but is really due to laceration of the cervix in parturition.

To demonstrate this, we have only to place the patient in Sims's position, and with a tenaculum in each hand draw down and roll in the everted lips. The ulceration will disappear, and we shall have a perfect cervix with the rent clearly seen extending from side to side. Our text-books do not take this view of the subject. Thomas is the only writer who mentions it, and Cazeaux says that laceration is very seldom followed by unpleasant consequences.

The failure to understand the true nature of the case is, perhaps, due to the employment of the cylindrical and bivalve specula instead of Sims's. Without the use of the latter the recognition and proper treatment of these cases is impossible. It is equally necessary to place the patient in Sims's position, without which Sims's instrument is the most awkward and useless. Other sources of error in diagnosis are:

(1.) The settling down of the uterus upon the posterior wall of the vagina, flattening out the cervix and effacing the angles.

(2.) The reduplication of the vagina upon itself, thus giving apparently the normal length to the cervix in spite of the laceration.

(3.) The lateral obliquity of the womb when the rent is unilateral, whereby we have apparently a patulous os in the centre of the excoriated surface.

We are most frequently called on to treat the lateral lacerations, since the antero-posterior rents almost always unite spontaneously. When the fissure is transverse, the womb settles down upon the posterior vaginal wall, whereby the torn lips of the cervix are kept apart and union is prevented. An extension of the laceration beyond the vaginal junction into the surrounding tissues may produce peritonitis or pelvic cellulitis, or may leave the patient with a vesico-vaginal or more rarely a vesico-uterine fistula. Laceration occurs more frequently on the left than on the right side, and may be produced by a miscarriage as well as by a birth at full term. The large size of the cervix in these cases is due to subinvolution, the process of involution being arrested by the constant irritation to which the neck is exposed. It is not hypertrophy, although the long-continued congestion may in time produce a true hyperplasia of the neck.

Dr. Emmet is of opinion that all cases of epithelioma beginning in the cervix are the direct results of laceration. The treatment of this injury by strong caustics or by amputation is ineffectual in restoring the womb to its normal

condition and in alleviating the distressing symptoms. The congestion should first be relieved by the copious hot-water vaginal douche and the application of a strong solution of iodine or the extract of Canada pine; malposition should be remedied by a suitable pessary, and all tenderness be relieved before any operation is undertaken.

The operation consists in paring the abraded surfaces with curved scissors, except the part to be left for the cervical canal, and in bringing the pared surfaces together with wire sutures. The sutures should be left in until the eighth day, and may be left longer without harm. By this operation the obstinate ulcer is radically cured, the uterus is rendered smaller and lighter, and the patient is freed from all her disagreeable symptoms.

In answer to questions, Dr. Porter replied that enough surface should be left unpared to make a canal somewhat larger than normal on account of the subsequent contraction. Cicatricial contractions of the cervix often cause severe nervous symptoms, as in a case of Dr. Emmet's, where these symptoms were relieved only by the excision of the cicatricial tissue. Lacerations were said to occur in ten per cent. of ordinary cases of labor and in fifty per cent. of difficult ones.

Dr. Porter gave to Dr. T. A. Emmet, of New York, the full credit of first recognizing laceration of the cervix as a source of uterine disease and bringing to notice the importance of the subject and the operation for the relief of the lesion.

*Compound Fracture with Diabetes.*—DR. GEORGE E. MASON reported a case of compound fracture of the tibia and fibula, complicated by diabetes.

The patient, a man of sixty years of age, had his leg caught between the spokes of a wheel, causing a compound fracture of the tibia and fibula at the junction of the upper and middle thirds. For nine weeks he was under treatment by an irregular practitioner, and when seen at the end of that time by Dr. Mason the leg was much swollen and indurated, and distinct crepitus could be felt at the point of fracture. The patient complained of continual thirst, and stated that he drank habitually from one to two quarts of tea in the night, besides large quantities of water in the day-time. He passed six quarts of urine in twenty-four hours, of a specific gravity of 1040, and highly charged with sugar.

Tincture ferri chloridi and fluid extract of ergot were ordered with a diet consisting exclusively of skimmed milk and whey. The fractured leg was put up in a plaster-of-Paris splint. The sugar disappeared from the urine in forty-eight hours and did not return. Firm union of the fractured bones took place in six weeks, and in two months the patient returned to his work. The iron, ergot, and diet of skimmed milk were continued as long as the patient remained under treatment. The union of the fractured bones appeared to commence as soon as the sugar disappeared from the urine.

APRIL 2, 1877. *Glanders.*—DR. W. M. POTTER reported a case of equinia which occurred in a man aged about thirty. He contracted the disease from his own horse, but in what manner was not determined. Dr. Potter first saw this patient on the twenty-first day of his sickness, and found him at that time

in a typhoid condition, semi-delirious. Pulse rapid and feeble; temperature  $104\frac{1}{3}^{\circ}$ ; respiration hurried; subsultus tendinum and carphologia well-marked; tongue covered by a very thick black coating, with sordes upon teeth, gums, and lips. There was an exceedingly offensive discharge from the nostrils, consisting of mucus, pus, and blood. The alvine evacuations were also very offensive. He complained of intense pain in the region of the frontal sinus. There were a few small abscesses upon the extremities. From this time to that of his death (on the twenty-sixth day) the symptoms gradually grew worse, new abscesses would form with remarkable rapidity, and two or three carbuncles appeared. On the twenty-fifth day there was a papular eruption, isolated, scanty, and scattered over the body and extremities generally; in six hours these papules had become distinctly umbilicated pustules resembling those of variola, and they continued thus till death, the next day. No post-mortem was made.

*Cancer of Stomach.* — Dr. Potter presented also a specimen of scirrhus of the cardiac extremity of the stomach, extending up the œsophagus a distance of nearly an inch, and constricting this canal to a diameter scarcely exceeding one eighth of an inch. The liver was contracted, full of cancerous deposits, and adherent to the cancerous mass in the stomach. The remarkable feature in the case was the entire absence of the usual symptoms of cancer.

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## TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.<sup>1</sup>

THE American Gynecological Society was formed in New York, June 3, 1876, and its first annual meeting was held in the Academy of Medicine in that city the following September. The number of active members is limited to sixty, and the number belonging at present is thirty-nine. The first volume of the Transactions has at last made its appearance, and, judging both from the character of the contents and the general excellent appearance of the book, the society may well feel that the long delay in the preparation of the volume is more than repaid by the satisfactory result obtained.

In the small space allowed us for a review of the work it will be impossible to do more than to allude to a few of the longer papers. Dr. Emmet leads off with an article on the Etiology of Uterine Flexures, in which he gives a careful analysis of the records of three hundred and forty-five cases of different forms of flexures, and a discussion of the rational method of treating these various deviations.

Dr. Robert Battey, of Rome, Georgia, considers the question of the advisability of the Extirpation of the functionally Active Ovaries for the Remedy of otherwise Incurable Diseases. He gives the history of ten cases in which the operation was performed. The results shown by Dr. Battey seem hardly to warrant the performance of so grave an operation. Two of the patients died, two were not at all relieved by the operation, two experienced a slight tem-

<sup>1</sup> *Transactions of the American Gynecological Society.* Vol. i., for the year 1876. Boston: H. O. Houghton & Co. 1877. Pp. 396.



porary improvement, three were reported as markedly improved, and only one was cured of the trouble for which the operation was performed.

The Relations of Pregnancy to General Pathology are admirably discussed by Dr. Robert Barnes, of London.

Dr. Byford, of Chicago, considers at some length the fact that fibrous tumors of the uterus are sometimes destroyed and expelled by the unaided powers of nature, and also discusses the means by which gynecologists may, in certain cases, imitate the process.

Dr. T. G. Thomas reports in detail a Case of Abdominal Pregnancy, treated successfully by Laparotomy.

One of the longest articles is that on Pneumatic Self-Replacement in Dislocations of the Gravid and Non-Gravid Uterus, by Dr. Henry F. Campbell, of Augusta, Georgia. This article is illustrated by numerous drawings, and shows considerable ingenuity on the part of the writer, but we question whether he has not gone too far in his enthusiastic advocacy of his theory of the power of atmospheric pressure to relieve uterine displacements.

Dr. E. Noeggerath elaborates the theory, first advanced by him in 1872, of the influence of latent gonorrhœa, especially with regard to its influence on fertility in women. While we cannot agree with the writer in many of his deductions, the article is one which well repays a careful study, as possibly throwing some light on a class of cases as yet but little understood.

Dr. J. R. Chadwick gives a description of six cases of rare forms of umbilical hernia in the fœtus, the article being illustrated with five full-page cuts. In addition to these longer articles the volume contains a number of shorter ones by Drs. J. Matthews Duncan, A. J. C. Skene, E. W. Jenks, T. Parvin, T. G. Thomas, W. L. Richardson, A. Wiltshire, L. Tait, G. H. Bixby, E. R. Peaslee, W. Goodell, and others. The discussions, which followed the reading of the several papers, are also given in full, and add very greatly to the value of the volume.

The report closes with a biographical sketch of the late Gustav Simon, an Honorary Fellow of the society, written by Dr. P. F. Mundé and preceded by an excellent likeness.

The typography and general arrangement of the book are in excellent taste. The substitution of the single vowel for the diphthong in the orthography of several words seems to us very questionable. It would hardly be fair to judge of the value of the work to be done by any society by a perusal of the first volume of its Transactions. The society is, however, soon to meet in Boston and the programme of its second meeting, as far as published, gives promise of good work in the future. If the coming volumes shall equal the present one in merit, the series will be hereafter classed among the most valuable additions to a gynecological library.

THE NEW YORK PATHOLOGICAL SOCIETY.<sup>1</sup>

THIS society was founded in 1844, at a time when but little general interest in pathology was manifested in this country. Although one of its purposes was to give to its members a practical knowledge of pathological anatomy, it followed from the outset the plan pursued by the Boston Society for Medical Improvement,—the presentation of the clinical history with the morbid specimen, the latter being regarded as illustrative of the former. The wisdom of this plan is manifested by the active interest in the welfare of the society shown by the profession of New York, and by the accumulation of a large amount of valuable material for publication in the hands of the editor. A part of this material lies practically buried in various medical journals, and its permanent value is to be realized only by some such means as the present. This is accomplished by giving in greater detail the more elaborated recent reports and supplementing them by abstracts from the earlier records.

The quantity of specimens brought before the society is suggested by Dr. Delafield's tabular statement of eighty-four aneurisms of the aorta, and by Dr. Thompson's table of fifty cases of cancer of the stomach. These tables are also indicative of the quality of the communications, the individual members showing a readiness to assume exceedingly laborious and painstaking work for the purpose of giving valuable results in a condensed form.

The present volume, the first of the series, is apparently tentative, and it is to be hoped that the society will continue the experiment so well begun. The appearance of the book suggests that the expense must be a considerable one, and the nature of the contents necessarily throws the greater part of the cost upon the society. As an educational body, the great reward of this society must lie in the consciousness of well-doing.

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DR. BENJAMIN FANEUIL CRAIG.

THE army medical department and our scientific circles have to deplore the loss of an associate of no ordinary ability. After a protracted and painful illness, which he bore with uncomplaining fortitude, Dr. B. F. Craig died at his residence in Washington, April 10, 1877, at the age of forty-eight years. He was the eldest son of General H. K. Craig, formerly chief of ordnance in the army, and was born at the Watertown Arsenal, Massachusetts, January 28, 1829. Educated at first in Boston schools, he completed his collegiate course at the University of Pennsylvania in 1849, and then entered the medical department of that institution, and graduated in the class of 1851. Inspired with an earnest interest in chemical and physical science, he desired to perfect himself in these branches rather than to engage in the professional duties of a medical practitioner; and immediately after his graduation he went abroad and studied in London and Paris. Returning to this country in 1853 he was appointed professor of chemistry in the Georgetown Medical College and lectured there for the next three years. In 1858 he was selected to take

<sup>1</sup> *Transactions of the New York Pathological Society.* Vol. I. JOHN C. PETERS, M. D., Editor. New York: William Wood & Co. 1876.

charge of the chemical laboratory of the Smithsonian Institution, and the annual reports of Professor Henry make frequent references to the industrious fidelity with which he discharged the duties of that office for the ensuing four years. On the outbreak of the war, in 1861, it became necessary to engage a consulting chemist for the immense transactions that devolved on the purveying department of the army medical staff, and Dr. Craig was assigned to this responsible position. Only the authorities of the war department and the officials more immediately associated with him can adequately appreciate the great amount of labor which he expended in these years, and the conscientious exactitude with which it was discharged. The various reports and innumerable analyses that he prepared for the medical bureau were necessarily confidential; but if instead of being placed in official files they had appeared in the pages of the scientific journals, they would outweigh the material on which many prominent modern scientific reputations are founded. Besides these labors, Dr. Craig prepared, from material found in the Patent Office, a monograph on rifled field ordnance, showing the actual condition of the rifled artillery used in the army in the early years of the war. General H. T. Hunt remarked of this paper that it contained later information by eighteen months than could be found in the war-department files, and was of great use to him in discharging his duties as chief of artillery of the Army of the Potomac, and he added that he was much aided by the analyses, made by Dr. Craig, of fuses and other ordnance material. After the close of the war, in 1865, Dr. Craig continued in charge of the chemical laboratory of the army medical department, and, in addition, supervised and collated the meteorological observations reported by the medical officers at various posts. In 1873, at the request of the secretary of the treasury, Dr. Craig made two voyages to Europe for the purpose of making a series of elaborate experiments on the air of the steerages of emigrant steamers, with a view of establishing regulations for the amelioration of the condition of the passengers by these vessels. For a year before his death he was engaged in drawing up a report on the influence of climate on the health of troops, designed as an addition to the Medical History of the War. It must be hoped that the posthumous fragments of this undertaking may be preserved. Dr. Craig was a member of the American Association for the Advancement of Science, a secretary of the Washington Philosophical Society, and an associate or correspondent of other learned bodies. His published works are few and brief, but his printed papers are models of conciseness and precision, and pregnant with original and suggestive thought. The following are the titles of some of the more important of them: *Products from the Combustion of Gunpowder under Different Pressures*, in *American Journal of Science and Arts*, 1866, second series, vol. xxxi., page 429. *Report on Nitrification*, presented to the Smithsonian Institution in 1858, in *Smithsonian Annual Report*, 1861, pages 305-318. *Remarks on the Comparative Mechanical Energy developed by the Combustion of Gun-Cotton and Gunpowder in Fire-Arms*, in *Smithsonian Annual Report*, 1864, page 232. *Weights and Measures according to the Decimal System, with Tables of Conversion for Commercial and Scientific Uses*, New York, 1867, pages 48. *Report on Disinfectants and their Use in Connection with Cholera*, in *Circular No. 5, S. G. O.*, 1867, Appendix

B, pages 63-65. Special Report on the Ventilation of the Soldiers' Quarters at Certain Posts visited in Accordance with Instructions from the Surgeon-General, pages 6, 4to, in Circular No. 4, S. G. O. (A Report on Barracks and Hospitals, with Descriptions of Military Posts), Washington, 1870, page 487. Variations in the Temperature of the Human Body (read before the Philosophical Society of Washington), in American Journal of Science and Arts, 1871, third series, vol. ii., page 330. Determination of the Zero Point, in American Chemist, 1873, vol. iii., page 325. Report to the Secretary of the Treasury of the Results of Chemical Analyses of the Air of Steerages of Emigrant Ships, in Senate Executive Document, No. 23, Forty-Third Congress, First Session, 1873, pages 109-122. Separation of Acetic Acid, in American Chemist, 1875, vol. vi., page 45.

With very comprehensive erudition and admirable reasoning powers Dr. Craig united great goodness of heart, and his loss will be keenly felt by the many beneficiaries who were the objects of his unostentatious but liberal charity.

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#### MEDICAL NOTES.

— In Germany, according to the *Medical Times and Gazette*, it has long been the law that druggists shall refuse to dispense a second time any prescriptions which contain "drastic, emetic, diuretic, emmenagogue, narcotic, or other similar powerful medicines," unless the physician who wrote the prescription append the word *reiteratur*. The law has of late fallen into neglect, but a ministerial circular has recently been issued recalling the attention of druggists to it, and requiring its strict observance.

It may be that in this country it would be impolitic to enforce a similar custom by legislation, but could it not be practically accomplished if the pharmaceutical societies were to resolve that their members should not repeat a prescription unless an order were given to that effect by the physician who wrote it? In this way patients would be prevented from indefinitely continuing the use of a medicine which, although at first beneficial, might in time become inactive or harmful, and the common practice of lending prescriptions to friends would be stopped, — a custom which often does harm to the sufferer, and is an act of injustice to the physician who is "paid for prescribing for half a dozen people only at the rate for which he gives his time and experience to a single individual."

— In almost all cases of depression in patients suffering from mental disease, Rabow found the amount of urine in the whole twenty-four hours considerably diminished, the specific gravity increased, the amount of urea more or less diminished, and the chlorides reduced to a minimum. In one case the excretion of urea sank to 4.16 grammes, and the chlorides to 1.6 gramme. In paralytics in the first stage, as long as a certain mental stock and psychical capacity remains, there is usually an increased amount of urine, and corresponding to the increased assimilation of food, more urea and chlorides than in health; as the weakness of mind increases the amount of urine diminishes, and at the same time so does the absolute amount of urea and chlorides, while

the specific gravity appears increased and a cloudiness of the urine depending on the presence of urates is rarely absent. The author did not often find albumen in the urine of paralytics, contrary to Von Rahenau. He found in eight out of ten cases of epilepsy the observation of Huppert confirmed, namely, that in every attack an appearance of albumen followed, though perhaps very small in amount (*Archiv für Psychiatrie*, Band vii., Heft 1).

— Chopinet, in *Union médicale*, 132, 1876, has proved the statements of Baccelli (see Dr. F. I. Knight's report in the *JOURNAL* of October 12, 1876) and De Mussy about the whispered voice in thoracic effusions, and partially confirms them in eight cases which he has examined. Once he found marked pectoriloquy in a patient suffering from empyema; on the other hand it was not found in a case of very abundant serous exudation; when, however, the exudation became smaller, the phenomenon was observed. In four cases the whispered voice was heard on both sides, the healthy as well as the diseased, and once, indeed, on the healthy side only.

— From the East, in addition to the accounts of the terrors from war there come the threatenings of pestilence. The presence of the plague in some parts of Western Asia has been often referred to during the past two or three years, and the disease seems to have reappeared with fresh vigor in Bagdad and its vicinity. Fears are entertained of its indefinite extension in Mesopotamia, and the war now raging between Turkey and Russia will of course favor its advance still farther west.

In addition to the plague, there are grave forebodings regarding cholera. The epidemic of this disease which began in India in 1875 is finding its way through Persia into the Russian territories on the Caspian Sea. The presence of war will greatly favor its extension, and we may ere long hear of its ravages in Eastern Europe.

— The *Medical Times and Gazette* of April 28, 1877, publishes Notes on Hydrophobia in China, by J. Dudgeon, M. D., in which it is stated that owing to the idea entertained by the Chinese of the sacredness of the human body no case of post-mortem examination of a victim to hydrophobia has ever been obtained. Considering the number of dogs found everywhere in Chinese cities hydrophobia might be pronounced comparatively rare. Ordinary dog bites are extremely common, and the natives are much alarmed when bitten by a street dog. The treatment followed by the Chinese when bitten by a dog is to catch the animal, take some of its hair, mix it with lime, apply it to the affected part, and in three days it is well. They also take the precaution to tie very tightly the part above the wound. Among their methods of treatment is to order the wound to be immediately and freely scratched till it bleeds copiously, and likewise to be sucked and washed. An empty walnut-shell is to be filled with human feces, placed on the wound, and the moxa applied. This is to be repeated one hundred times if necessary, until the walnut-shell turns black and the contents are dry. Then for several days a compound of various herbs with saliva is applied. A mixture of cantharides, yellow earth, etc., is administered internally until micturition becomes painful. On the top of the head a red hair will be found, which is to be extracted. Various other methods, including cupping and the moxa, are practiced. Perfect quietness is en-

joined during the treatment. The points particularly noticeable in the Chinese practice in cases of hydrophobia are the necessity for the immediate destruction of the poison, chiefly by the moxa or some other means involving a similar principle, and the reliance placed on large doses of cantharides. All believe in the existence of a red hair on the vertex. They all believe that a man bitten by a mad dog has three chances of dying to one of living, and insist on perfect quiet during the progress of the disease.

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## BOSTON CITY HOSPITAL.

MEDICAL CASES OF DR. J. G. BLAKE.

[REPORTED BY J. B. FOLEY, M. D.]

CASE I. *Amenorrhœa: Application of Electrical Current; Recovery.*—Hattie W., aged eighteen; single; occupation, tailoress. The catamenia, which first appeared at fifteen, were always somewhat irregular, the periods varying from four to six weeks. The general condition had always been excellent, and the patient presented the appearance of robust health. She was sent to the hospital by O. G. Cilley, M. D., who had treated her for effects caused by the ingestion of about two drachms of oil of cedar, administered by herself. As she had already undergone sufficiently active treatment, merely general treatment was adopted, and in two or three days she recovered perfectly. As a reason for taking the drug, she stated that the catamenia had not appeared for sixteen months, and she hoped by this means to cause their return. Five days after admittance a gentle secondary current was applied to the fundus uteri in the following way: one of the terminal wires from a small battery was bound firmly to a uterine sound, and the sound passed into the uterus to the fundus. The other pole of the battery was then applied to the abdomen, just above the pubes. A mild current was then passed for a few minutes, the sound being moved freely about the fundus. On the following day the catamenia appeared, and continued for four days.

CASE II. *Amenorrhœa: Electrical Current; Recovery.*—Annie D., aged twenty-two; single; domestic; general appearance that of perfect health. Catamenia appeared at eighteen, and were regular until three months ago, when, from exposure to wet and cold during menstruation, they ceased, and did not again appear. On vaginal examination the uterus was found to be perfectly normal in size and position, with cervix congested, and dark purplish-red in color. The vaginal walls were also congested. The hot vaginal douche was used twice daily, and the fluid extract of gossypium, one drachm three times a day. As the desired effect was not produced, the electric current was applied fourteen days after entrance. Catamenia appeared two days after the use of the battery, and continued five days.

The above cases are interesting on account of the patients presenting the appearance of robust health, and from the fact of the affection in both cases having resisted the action of various remedies prescribed before their entrance. By the hospital records we find cases similar to the above discharged not relieved or only partially so after long courses of tonics. It would seem also

that if possible the current should be applied directly to the fundus uteri, as good results are gained in this way in cases which were not affected by a current passing from the pubes to the sacrum. Various authorities, as Althaus, Beard and Rockwell, Thomas, Golding Bird, and others, recommend the electrical current in cases of this nature; and certainly in otherwise healthy patients, where the disorder is not caused by structural disease or mechanical displacement, it seems capable of giving the best results.

CASE III. *Pneumo-Hydro-Thorax; Aspiration.* — Charles S., aged twenty-eight, single, a native of Sweden, entered the hospital March 22d. His family history and general health were excellent. Three weeks before entrance he suffered from a chill, followed by nausea, vomiting, headache, and fever, with intense pain in the left chest below the nipple. The pain in the chest was greatly increased on full inspiration and coughing. At this time he was much troubled by a cough accompanied by dry white sputa. He could rest only upon his left side, in which he felt a sensation of oppression and fullness. About twelve days after the commencement of the attack, during a severe fit of coughing, there was a sudden and large increase in the amount of sputa. The color also changed, becoming yellowish, while previously it had been white. On entrance, emaciation, debility, and anæmia were well marked. Cough was constant, with abundant muco-purulent expectoration. He had a fair appetite, complained of soreness over a circumscribed area in the lower left chest, and his nights were sleepless on account of cough.

On physical examination the right lung was found to be normal, except that the respiratory murmur was intensified. On percussion the left chest was found to be tympanitic over the upper two thirds, and respiration could be heard only at the extreme upper part, and but very faintly. No râles could be detected. At this time no succussion sound could be heard. The apex beat of the heart was found about one and a half inches inward and downward from the right nipple.

On account of his exhausted condition he was ordered generous diet, with ale, quinine, two grains three times a day, a palliative cough mixture, and ten grains of Dover's powder at night. For a week after his entrance the temperature and pulse were slightly raised, and then became normal. At about this time he stated that he could feel liquid in his left chest, and could hear a splashing sound on quick movement. A succussion sound could be heard, with metallic tinkling, the former being apparent without applying the ear to the chest. Twelve days after entrance the heart's dullness extended from the right edge of the sternum to the right nipple, and from the upper border of the fourth rib to the lower border of the fifth.

The level of the fluid contained in the chest could be made to vary about two and a half inches by inclining the patient's body. The left half of the chest was about one third of an inch larger in circumference than the right. During this period he gained considerably in flesh and strength. Nineteen days after entrance, while under the care of Dr. R. T. Edes, ninety-six ounces of a serous fluid, containing somewhat less than ten per cent. of pus, were removed from the left chest. With the fluid a considerable amount of air was withdrawn. On the following day the heart's dullness had moved towards

the left by about the width of the sternum. Four days after the operation breathing was much easier, and respiration could be heard throughout the left chest, except at the base, while the resonance was much less tympanitic over the left front. The heart's dullness had moved to the left about an inch, and during the next three days advanced to within one inch of the left nipple. At the time of writing, fourteen days after the operation, the fluid appears to be again collecting in the chest, and the heart is pushed to the right, the left border being almost in the median line. The level of the fluid is at about the fourth intercostal space in front. In general health and appearance the patient is very much improved, and he walks about with much less fatigue and exhaustion. He eats and sleeps well. On account of his general improvement the prognosis seems favorable, but as regards the conditions it seems as though a permanent opening in the chest must be the final result, as the fluid withdrawn certainly contained a large amount of pus.

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#### LETTER FROM NEW YORK.

MESSRS. EDITORS, — The great medical event since my last letter has been the opening of the new New York Hospital. Patients were received on the 17th of March. On the evening of the 16th an address was given at Clickering Hall, by Dr. William H. Van Buren, which occupied about an hour in delivery, giving a history of the hospital and a short account of the physicians and surgeons who have been connected with it during its existence of nearly a century, and whose skill gave it the reputation it has so long enjoyed. At the conclusion of the address the hospital buildings were thrown open for inspection. On going through the elegantly finished wards one felt as the Queen of Sheba is said to have done when she beheld the magnificence of Solomon. The rooms for private patients, with their expensive Eastlake furniture, Turkey rugs, and plate-glass mirrors; the wards with their tessellated floors, brass fixtures, small Axminster rugs by each bed, and electric signals, all bear witness to the lavish, I had almost said useless manner in which the funds of the hospital have been spent. Everything was in perfect order and ready for use. The extensions on either end of the building, containing the water-closets, bath-rooms, etc., were fitted with every convenience that the ingenuity of the architect could devise.

I think that one would be puzzled on first entering the "recreation room" to know whether he was in a conservatory or an aquarium, so profusely were the pots of flowers scattered about the room; in its centre were a number of salt-water tanks containing various kinds of fish and other inhabitants of the sea, while from the ceiling were hung bird-cages filled with their noisy occupants. A platform for a band is placed at one end of the room.

One thing seems entirely out of keeping with the other furniture of the house. In the nurses' rooms are *double* beds, one *over* the other; how the unfortunate occupant of the top bunk gets up there we were unable to find out. The apothecary's department is cramped, and suggests the thought that a little more room and a little less ornamentation would add much to the conven-



ience of the apothecary. A handsome nine hundred dollar ambulance, with colored driver, is attached to the hospital. The cost of the hospital, grounds, etc., is said to be not less than nine hundred thousand dollars. Its capacity is one hundred and fifty beds. It must prove a very expensive institution. They now have about fifty patients in the hospital. It has always been supposed that it was the intention of the Board of Governors to build a free hospital. Their lavish expenditure of money and oft-expressed desire to extend aid to the poor was considered a guaranty that the hospital would be self-supporting and free, but I am sorry to state that there is not a single free bed in the house except for accident cases; the charge for all other patients is a dollar a day for a bed in a ward, and from fifteen to fifty dollars a week for a private room.

The estimated cost of the hospital building, according to the report of 1875, was four hundred and thirty-five thousand dollars; the land cost three hundred and fifteen thousand dollars; the income for 1876 was about one hundred and fifty thousand dollars from ground rent of their Broadway property. The managers have certainly put up a handsome and expensive building in a fashionable portion of the city. It has been constructed more after the style of a private house than in accordance with the demands of a charitable institution, and although one cannot but admire its elegance, it does seem as though the money could have been spent to much better advantage.

There is another subject that has given rise to considerable remark and criticism. The Board of Governors of the hospital have opened a dispensary, or rather an out-door department, on what to us in New York is a new plan. A circular has been very freely distributed through the city, giving the "rules governing the admission and treatment of patients." The following are what are considered the objectionable features of the plan:—

"All persons *without distinction* are entitled to receive the benefits of this branch of the hospital service. . . . All will be treated in the order of their application. . . . Exceptions to the rule will be made with persons from the country or living a long distance from the hospital. In such cases it will be desirable that appointments be made in advance; this can be done *by mail*. . . . Applicants will be furnished with a card of admission, which will give the privilege of the service for *one month*. The price of the card will be *one dollar*. Prescriptions will be put up for ten cents each. . . . Whenever proper treatment shall seem to require the detention of the patient in the hospital, a bed will be assigned in a *private* room or in a ward set apart for that purpose. The charge in the ward will be one dollar a day, and in a private room *fifteen to fifty* dollars a week. . . . All patients from the country will be furnished with a written diagnosis of their disease, with suggestions as to the proper treatment and remedies."

From the wording of the circular the plan is looked upon as an attempt to draw to the out-door department a better class of patients than that which goes to the other dispensaries, and to take away patients from those who practice among the middle classes. It is also looked upon as an endeavor to establish a cheap consulting board and a bid to draw patients from the country by allowing them to make appointments by mail. The second section of the rules

gives no discretion to the attending physicians, but requires them to treat "all persons without distinction" for *one dollar* a month, and as if further to advertise the dispensary and to publish to the public that it is expected that those in good circumstances will avail themselves of the benefits of the out-door department, it is stated that to those who seem to require detention in the hospital a bed will be assigned in a *private room* or ward, the charge for a room being from *fifteen* to *fifty* dollars a week. The *Medical Record* has been very severe upon the staff, but, it seems to me, with great injustice. It is the plan of the governors and not the attending staff. Perhaps the plan after being modified may work, but as the circular now reads it does seem as though it were the intention of the managers of the hospital to fill their private rooms and wards at the expense of outside practitioners.

Finally, to wind up the advertisement, they say, "To facilitate the service and make the attendance agreeable to the patients, trained nurses, male and female, will be at hand to render assistance. The waiting rooms provided are large and convenient. It is believed that this branch of the service of the New York Hospital will be what its promoters intend, namely, an efficient means of extending the best medical and surgical treatment to the industrial class."

Whether the criticism of physicians and the public will have any weight with the board remains to be seen. One would think that an institution as old as the New York Hospital could fill its wards without advertising.

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### SUITS FOR MALPRACTICE.

MESSRS. EDITORS, — I was much interested in reading in the issue of the JOURNAL of April 19th the very able review of Dr. McClelland's new work on Civil Malpractice, as I have recently been made the victim of one of those outrageous and annoying affairs, a lawsuit for alleged malpractice. I was called to see a child five or six years old, last summer, and found that it had been sick three or four days, complaining of considerable pain about the head, and was somewhat drowsy, with nervous starting and jumping. The pulse was high, and the fever at times considerable. There were no abdominal symptoms except a little pain and some slight tenderness. The temperature was not taken. I put the child upon a simple fever mixture, the chief parts of which were liquor ammoniæ acetatis, a small dose of tincture of aconite, and elixir of calisaya for a vehicle, adding bromide of potassium, so that the child took about six grains every three hours (together with salicin). The child was improving, when the family called in a prominent South End homœopath, who assured the family that there was nothing the matter with the child, except that it was being drugged to death, and that he could not give it any medicine till the effect of my medicine had passed away. The child recovered, but on presenting my bill I was met by a suit which alleges that the child was drugged by powerful medicines, so that it was injured for life, was made partly foolish, the hair caused to come out, and the like. The family were backed up by the homœopath and a somewhat prominent member of the Suffolk Bar. The sum demanded was five thousand dollars. The length of time I attended

the child was two days and a half. The amount of bromide it took in that time was perhaps a little over a drachm. If suits are to be brought on such grounds as this, at the will of any miserable patient who wants to dodge paying his bill, what protection have we in the practice of medicine? Of course I can win the case in court, and have the satisfaction at last of paying out three or four hundred dollars for lawyers' fees. There should be a law to prevent the bringing of suits on trivial grounds, and the respectable members of the legal profession should unite in agreeing to discourage such suits by their clients. But as there are charlatans in medicine who prey upon every one they can, so there are quacks in law. It will yet come to pass, I am afraid, that before we enter upon a case we shall have to make the patient sign an agreement not to sue us. This same homœopath, by the way, once before has tried to prove that a child was killed by a druggist, who gave it chalk mixture, of which the child swallowed about ten drops.

Respectfully yours, E. G. MORSE, M. D.

174 DUDLEY STREET.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MAY 5, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	472	22.78	27.46
Philadelphia	850,856	301	18.39	22.88
Brooklyn	527,830	180	17.73	24.31
Chicago	420,000	155	19.19	20.41
Boston	363,940	116	16.57	23.39
Providence	103,000	27	13.63	18.34
Worcester	52,977	22	21.59	22.00
Lowell	53,678	15	14.53	22.21
Cambridge	51,572	11	11.08	20.54
Fall River	50,370			22.04
Lawrence	37,626			23.32
Lynn	34,524	22	33.14	21.37
Springfield	32,976	11	17.35	19.69
Salem	26,739	9	17.50	23.57

SUMMARY FOR APRIL. — Low death-rates ruled throughout the month, and the public health was in a much more favorable condition than in March, in all the cities.

In New York, the most destructive diseases of the previous month (phthisis, pneumonia, and bronchitis) were less fatal. Scarletina and diphtheria were slightly more fatal. Small-pox caused four deaths.

In Philadelphia, the mortality from pulmonary diseases was low. Thirty deaths were caused by small-pox, about the same mortality as in the previous four weeks. Scarletina, diphtheria, and croup have somewhat diminished.

In Brooklyn, diphtheria was more rife. Other diseases showed no noteworthy change.

In Chicago, scarlatina caused more deaths than phthisis. The low mortality from pulmonary diseases in this city is remarkable.

In Boston, phthisis and pneumonia together caused a third of all the mortality. There were fewer deaths from diphtheria. Scarletina showed a slight increase. No deaths from small-pox.

In Providence, the death-rate for the month was 18.3, a small increase over the previous

month. Diseases of the respiratory organs were prevalent. Diphtheria caused considerable mortality, and the registrar of the city pronounces it "epidemic" there.

In Massachusetts cities, other than Boston, diseases of the respiratory organs were less fatal than in March. Searlatina caused more deaths. F. W. D.

THE eighty-sixth annual convention of the CONNECTICUT MEDICAL SOCIETY will be held in Hartford, May 23d and 24th. Business meeting on Wednesday.

C. W. CHAMBERLAIN, *Secretary*.

At the meeting of the Boston Society for Medical Observation, to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Jeffries will read a paper upon Seventy Cases of Enneleation of the Eyeball.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY. — At the annual meeting, held at Stoneham, May 9, 1877, the following officers were elected for the ensuing year: President, W. Symington Brown; Vice-President, Francis F. Brown; Secretary, J. Richmond Barss; Treasurer and Librarian, John O. Dow; Auditor, F. F. Brown; Censors, S. W. Abbott, A. H. Cowdrey, J. O. Dow, F. Winsor, D. W. Wight; Councillors, S. W. Abbott, J. M. Harlow, F. Winsor; Nominating Councillor, J. M. Harlow; Commissioner on Trials, S. W. Abbott; Reporter, F. Winsor.

NORFOLK DISTRICT MEDICAL SOCIETY. — At the annual meeting of the society, held in Roxbury, May 8, 1877, the following officers were elected: President, Dr. John P. Maynard; Vice-President, Dr. Robert Amory; Treasurer, Dr. George J. Arnold; Secretary and Librarian, Dr. Henry R. Stedman; Councillors, Drs. George J. Arnold, B. E. Cotting, R. T. Edes, P. O'M. Edson, D. S. Fogg, F. F. Forsaith, J. G. S. Hitchcock, J. Morison, J. Seaverns, J. Stedman, C. C. Tower, C. E. Stedman, J. H. Streeter, A. H. Nichols; Censors, Drs. G. Faulkner, F. W. Goss, J. W. Chase, W. B. Trull, B. Cushing; Reporter, Dr. J. S. Greene; Nominating Councillor, Dr. C. E. Stedman; Commissioner of Trials, Dr. T. H. Dearing; Committee of Supervision, Drs. G. J. Arnold, A. H. Nichols.

The annual address was delivered by Dr. C. C. Tower.

ARTHUR H. NICHOLS, *Secretary*.

CORRECTION. — In reference to the report of a case of strangulated hernia, published in the JOURNAL of April 26th, we have received a note from the patient's attending physician, stating that certain errors occur.

The portion excepted to is as follows: "The hernia had always been reducible until Saturday morning, February 10th, when he was attacked with *pain in the region of the rupture*, which compelled him to stop work and go home. . . . In the evening the pain greatly increased, and *vomiting set in*. . . . *Pain and vomiting persisted throughout the night, all day Sunday*, and until Monday noon, when the patient entered the hospital," etc.

It is now stated that he vomited but *once* on Saturday, and had an operation from the bowels; that the pain was at the *epigastrium*; that no farther vomiting came on until mid-night on Sunday, when the symptoms continued until he entered the hospital. G.

BOOKS AND PAMPHLETS RECEIVED. — Seventy-Fifth Annual Catalogue of Bowdoin College, 1876-77.

The Relations of the Urinary Organs to Puerperal Diseases. By W. M. Chamberlain, M. D. (Reprinted from the American Journal of Obstetrics and Diseases of Women and Children.)

Hydrate of Chloral in Obstetric Practice. By W. L. Richardson, M. D. (Reprinted from Volume I. of Gynecological Transactions.)

Post-Mortem Examinations. By Rudolph Virchow. Philadelphia: Lindsay and Blakiston. 1877.

Headaches: Their Nature, Causes, and Treatment. By William H. Day, M. D. Philadelphia: Lindsay and Blakiston. 1877.

The Question of Rest for Women during Menstruation. By Mary Putnam Jacobi, M. D. (The Boylston Prize Essay of Harvard University for 1876.) New York: G. P. Putnam's Sons. 1877.

Hand-Book of Hospital Visitors. New York: G. P. Putnam's Sons. 1877.

All the above are for sale by A. Williams & Co.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## AN ADDRESS DELIVERED AT THE ANNUAL MEETING OF THE BOSTON MICROSCOPICAL SOCIETY.<sup>1</sup>

BY OLIVER WENDELL HOLMES, M. D.

To those of my generation this modern world — which most of you take as a matter of course, it being the only condition of things of which you have had experience — is a perpetual source of wonder, a standing miracle. Science and art have in our time so changed the aspect of every-day life that one of a certain age might well believe himself on another planet or in another stage of existence. The wand of Prometheus is in our match-boxes; the rock of Horeb gushes forth its streams in our dressing-rooms; the carpet of Arabian story is spread in our Pullman car; our words flash from continent to continent; our very accents are transmitted from city to city; the elements of forming worlds are analyzed in our laboratories; and most wonderful and significant of all, the despotic authority of tradition is unseparated since the angel of anæsthesia has lifted from womanhood the burden of the primal malediction.

Among the acquisitions of knowledge coming within my own easy remembrance is the conquest of the invisible universe achieved for us by the microscope. I have thought that my own experiences in relation to this miraculous instrument might serve as a kind of vertebral support to the otherwise *disiecta membra* of the brief discourse to which you are to listen.

You may smile as I hold up before you a pocket magnifier such as you can now find for sale at any of the opticians' shops, but which I remember from the days of my boyhood. It is principally remarkable as recalling the person from whom it was purchased. There were two ministers in Essex County noted for uniting the study of science with the exemplary discharge of their clerical duties: the Rev. Dr. Manasseh Cutler, of Hamilton, born in 1742, and the Rev. Dr. John Prince, of Salem, born in 1751. The last mentioned died at the age of eighty-five, in the year 1836. He was an ingenious workman, and among other things made some improvements in the air-pump. Salaries were small in those days, and even in our own time clergymen, who are apt to be blest with fruitful vines and abundant olive-plants, are not gen-

<sup>1</sup> Printed at the request of the Microscopical Society.

erally pampered into apoplexy. Good Dr. Prince had occasion to import various philosophical instruments for his own use, and now and then turned an honorable shilling or dollar by disposing of a microscope or a kaleidoscope, or perhaps an air-pump, to a clerical brother whose children did not happen to be hungry. Such fortunately was the condition of my father's family when he purchased this magnifier, or microscope, as we called it, of the kindly old natural philosopher of Salem.

The text-books of my medical pupilage treated the microscope and the results obtained by the use of it with distrust and even with contempt. I may refer to Dr. Godman's edition of Bell's Anatomy, published in 1827, in proof of this. Even so late as 1844, when the fourth edition of Bostock's learned Physiology was published, the microscope fared little better at the author's hands. From the spring of 1833 to late in 1835, I followed the courses of the most renowned teachers of Paris, great physicians and surgeons, distinguished anatomists, physiologists and pathologists, and I do not remember ever hearing one word about the microscope or the results obtained from its employment. But in the year 1833 a French author had already published an Organic Chemistry, in which he described and figured a small simple microscope which was called after him "microscope Raspail." François Vincent Raspail is well known to the biographical dictionaries as one of the reddest-hottest of red-hot red republicans. Half his time, more or less, he contrived to be kept in jail, and there is no place more favorable for study than a prisoner's cell. He worked very hard with his microscope during his imprisonment, and even with his imperfect instrument came near anticipating the cell-doctrine which was maturing in the ovary of science. His "spiro-vesicular theory" is a very interesting and curious foreshadowing of a great coming discovery which was to eclipse all that had gone before it in that line of knowledge. But to see what Raspail saw with his imperfect little doublets one must be shut up in a cell as he was, so that his attention may be concentrated and his pupils dilated; at least I thought so after doing my best with his simple microscope, which you see here as it was given to the world forty years and more ago.

In the year 1836 the *British and Foreign Medical Review* was established, under the editorship of Dr. John, afterwards Sir John Forbes, and Dr. Conolly. It was through the pages of this admirable journal that many English and American readers first became acquainted with the more important results of those microscopic investigations which had been going on for the last few years, since the achromatic microscope had been invented. For, as most of you know very well, it was between the years 1825 and 1830 that the compound microscope received that great improvement which converted it from a

plaything, or little better, into a trustworthy scientific implement. In July, 1838, the *Review* gave an account of the minute structure of nerves as described by Ehrenberg; a year later of the structure of bone; in 1840 an analysis of the labors of Schwann, which began the revolution in modern physiology by showing the basis of structure and mode of growth in animals; in short, the history of cell-development and cell-transformation in the animal structure, and its essential identity with that of the plant, already described by Schleiden. In 1842 Mr. Paget, now Sir James Paget, gave a full abstract of the grand series of histological results arrived at by the aid of the regenerated scientific instrument, and we who had been taught in the school of Bichat and Beclard found that the microscopists of the new era, like Molière's Médecin malgré lui, had *changé tout cela*, and we must learn what we called our "general anatomy" all over again.

The first achromatic microscopes I remember were some small hundred-franc instruments, with nothing but a rack-and-pinion adjustment, made by Charles Chevalier, of Paris. The first English instrument I recollect was the great Ross microscope, costing, I think, some six hundred dollars, ordered by the Lowell Institute. This mighty optical engine has the characteristic merits and defects of the English instruments in general. Its workmanship is admirable, its stability like that of Bunker Hill monument or the pier which supports an equatorial telescope. But it is heavy enough to make the shoulders of Atlas ache, and has brass enough in it for a pair of andirons. I had the privilege granted me of using this instrument freely, and learned to appreciate the excellence of its lenses and its mechanism.

Thirty years ago, having seen a microscope just brought home from Paris by one of my friends, which claimed great superiority, being a somewhat reduced form of that furnished to the College of France and the Academy of Sciences, I ordered one like it from Charles Chevalier, the one you see before you. This microscope, out of which I got great comfort and edification for a time, has pretty nearly all the defects which can be illustrated without extravagant expenditure. You remember the temperance lecturer's unsteady companion, who, being asked in what capacity he attended the speaker, replied that it was as the "shocking example." So I may use this instrument this evening as an instructive specimen, showing the faults to be avoided, and enabling me to bring out the excellences to be aimed at in a microscope. And first I need say nothing in particular about the lenses, for although Oberhaeuser, Nachet, and Hartnack have sent out many admirable glasses from Paris, everybody knows that when we say a "French objective," without specifying that it comes from one of the first-rate makers, we do it something in the way that our benighted colored fellow-citizen spoke of the preacher about whom he was questioned: "A fair preacher,

— yes, a *pretty* fair preacher; a *New York* man.” To make it work in the horizontal position with a level stage, an elbow containing a prism is introduced. Now every needless bit of glass between the eye and the object is like that added drop of water which, as Father Mathew (or some other Irishman) says, only spoils the punch. Again, an instrument should be as portable as is consistent with sufficient solidity of construction, and also capable of being set up and returned to its case with the least possible trouble. This microscope screws into its own case, which is nearly as big as a funeral casket, and it almost requires an undertaker to lay it out after one has done with it. Every needless joint in a microscope is an evil, costing money and tending in the long run to produce unsteadiness, and this instrument is full of knees and knuckles and elbows. The fine adjustment, which should demand no perceptible effort for its movement, carries the whole stage up and down, and requires some outlay of force to effect the change of focus. On the other hand this, as well as the larger pattern of Charles Chevalier, anticipated by some years the arrangement more conveniently carried out by Professor J. Lawrence Smith, in his inverted microscope, which, like this of Chevalier, is especially adapted for chemical investigations.

My experience with this complex instrument gave me a taste for simplicity in microscopic stands which has been shared by better workers than myself. I remember that Jeffries Wyman used to keep a complicated and imposing microscope under a bell-glass on his table, but the one which he chiefly used was perfectly simple and showed the marks of long and hard service. And Dr. Waldo Burnett, whose enthusiasm and ability promised fair to make him one of the most distinguished microscopists and students of science of his time, a young man whose early death I have never ceased to deplore, bore witness to the same effect. “Although,” he says, “there are many times when all the nice mechanical arrangements of an English mounting may be indispensable, yet the man who does the real work, and from the labors of whom this science is to progress, will not use them once in a hundred times. . . . They are most excellently adapted,” he thinks, “for that class of microscopists who are not desirous of being workers so much as of being amateurs in this department of science.”

I am afraid I have been somewhat of a fanatic in my attempts to simplify and cheapen the mechanical part of the microscope. There are reposing in some dark receptacle more than one, —

“*Monstrum horrendum, informe, ingens, cui lumen ademptum,*”

which was an uncouth approximation to the idea at last worked out to my content in the not inelegant instrument you see before you as now manufactured in Philadelphia, and which in one form or another I have used with satisfaction in the lecture room for a number of years. Though intended for passing from hand to hand around a class of stu-



dents, I have found it convenient enough for ordinary use, especially with the addition of the simple hinged platform and of the stage of which I show you the first finished specimen from an optician's establishment, made from a pattern furnished by myself, and embodying a plan of movement I have long tried and found eminently serviceable.

I have owned and own a good many objectives, and have made trial of a great many. Chevalier's, Oberhaeuser's, Grunow's, Spencer's, Tolles's, Gundlach's, one or more of each of their make I possess. Three of Spencer's which I have, made a quarter of a century ago, are admirable glasses. The  $\frac{1}{2}$  once owned by Waldo Burnett was carried to Europe by him and pitted against the best English and French objectives he could meet with, coming out if not always with victory, never with defeat. I need not speak to you of Tolles's objectives, since they are recognized by the experts as unsurpassed if not as unequalled by any made in any part of the world. Boston may well be proud of the telescopes of Alvan Clark and the microscopes of Robert B. Tolles.

I suppose every microscopist goes through a period of combative excitement about his objectives if he has any remarkable ones. It is perfectly true, as Dr. Carpenter says, that "it is not the *only* nor yet the *chief* work of the microscope (as some appear to suppose) to resolve the markings of the siliceous valves of the *Diatomaceæ*," and that "if one tenth of the attention which these objects have received had been devoted to the careful study of the life history of the tribe of plants which furnishes them, it cannot be doubted that great benefit would have accrued to physiological science."

We can hardly overvalue the admirable achievements of the great European opticians or of our own masters in the art. But studying out a difficult point in vegetable or animal structure is one thing, and fighting objectives is another, as full of excitement as cock-fighting, and as different from true scientific work as that is from laying eggs and breeding chickens. I have done a good deal of it, too much I fear, when I might have been more profitably employed. Let me tell you briefly of one of these objective battle-royals in which I was a combatant. It was at the meeting of the American Medical Association, in New York, in 1853, that fatal gathering rendered memorable by the Norwalk disaster, in which so many returning members of the association lost their lives. I had carried to the meeting one of my own homely wooden stands and my most formidable objectives. I cannot remember just how many showy instruments I encountered, but I know that I considered myself as having got the better of all their owners. While I was congratulating myself on this success, my attention was called to a rickety little microscope in the hands of a gentleman who seemed to be trying to coax some remarkable exploit out of it. Presently he took a specimen of the *grammatophora subtilissima*, with which

none of the rest of us could do anything, and the first thing I knew was, there he had it resolved so that its markings were as plain as the "rungs" of a ladder. I found that I had as my antagonist Mr. Lewis Rutherford, since famous in science, especially for his astronomical photographs. He was working with an instrument made by Amici, of Modena, having the first immersion objective I had ever seen, very possibly the first that was ever in the country.

Next to the pleasure of beating another is that of being soundly and satisfactorily beaten one's self. Any defeat that falls short of completeness is hard to bear, because something in us says, "Try again," and we have lost the confidence we had when we first began the combat. But a thorough, unequivocal, unquestionable beating leaves us at peace with ourselves and brings a kind of astonished acquiescence akin to pleasure. Besides, there is something in almost every one of us which we hate, a second self who is always flattering us with an idea of our superiority; and our best self rather enjoys the humiliation of our lying and cajoling meaner half, when it is left sprawling in entire discomfiture.

I have given you a brief sketch of some of my own experiences with the microscope, but I would not have you think I attribute too much importance to them. My dealing with the instrument has been principally as a teacher, and not of microscopy as a specialty, but as a fractional portion of long-extended courses on anatomy, delivered to large classes. The most I could hope for was to teach them the rudiments of histology, and more especially to give them knowledge enough to make them wish for more. I have therefore aimed at having perfectly and easily manageable instruments, at selecting the most important and interesting objects, and at making everything as plain as practicable, knowing well that if a mistake in looking through a microscope is within the bounds of possibility, the young student will be certain to make it. If there is an air-bubble, or a crack in the glass, or a speck of dust, or anything of any sort which has no business in the field of vision, his eye seems instinctively to fasten upon it, as the needle leaps to the magnet, as lovers' hands fly to each other the moment the train enters a railway tunnel.

I do not forget that this society has different ends in view from mine. I suppose these ends to be chiefly the two which I now mention: in the first place the exhibition of the most interesting microscopic objects in the various specialties cultivated by different members, and next to that the comparison of instruments and the showing up of new inventions and contrivances in microscopic apparatus.

An association formed with these objects may give much entertainment to its members, and if conducted in a truly scientific spirit, some real instruction. But there is great danger that such a body will lapse into a kind of aimless dilettanteism which will keep the more genuine

students of science away from its meetings. You will pardon me for quoting some very severe remarks made in the *British and Foreign Quarterly Review*, in 1842, a year or two after the London Microscopical Society was formed; Mr. Webster, you may recollect, adopted as his motto, on a memorable occasion, *vera pro gratis*. When you remember that the society against which these remarks were directed had Richard Owen as its president, you will see that it was not likely to be frightened by a few tingling paragraphs, and I am sure you will not be.

"In the present day," the writer says, "there are many Leeuwenhoeks in desire, if not in fact; that is, there are many who think their time well occupied in seeing, without understanding or explaining, the various objects of microscopic investigation. . . . In the same spirit which actuates them separately the Microscopic Society has been founded. A number of persons — anatomists, botanists, geologists, chemists — are here combined as if to form one large and complex Leeuwenhoek, with nothing more in common in their disorderly pursuits than that they all study little things with the same apparatus." I hope you will be able to bear the passage which follows. It sounds harshly, but there is a lesson in it, which the philosophers — minute philosophers, as Bishop Berkeley would have called them — to whom I read it will, I believe, thankfully appropriate.

"We have no doubt whatever," this irreverent writer goes on to say, "that this society is even mischievous, by giving to an apparatus the highest place in the investigation of knowledge, and by inducing industrious men to study little pieces of every science, because they have the means of *seeing* the objects concerned in them. It is in this way that the microscope may be again, as it once already has been, employed to no good purpose."

Here, also, are some remarks which I find quoted in the *American Journal of Microscopy*, and which I cannot improve by paraphrasing: —

"Most of the discoveries with the microscope have been made with instruments of moderate power and cost, and have resulted from patient, diligent observation. As we glance through the history of the microscope, we cannot avoid noticing how little has depended upon the instruments, and how much upon the methods and perseverance of the men who have accumulated so vast an amount of information; and although the wonderful perfection of modern high powers — and indeed of the microscope generally — has undoubtedly increased both our means of research and the number of observers, the conclusion is forced upon us that, as we use it, the microscope is almost a new sense or a mere toy. I hope the growing tendency to the latter result may find no place among us."

It is a fact strikingly illustrative of the above statement that Dr. Waldo Burnett parted with his Spencer's  $\frac{1}{12}$ , of which he thought

so highly for its resolving powers, and purchased a  $\frac{1}{8}$  of the same maker, finding it, I suspect, more serviceable for general use, and much more convenient on account of its greater working distance. When it comes to studying the markings of the diatomaceæ or the movements in the interior of the salivary globules, as our skilful friend, Dr. Richardson, of Philadelphia, has studied them, the power can hardly be too high or the angle too large.

In this connection I may venture to offer, though with some hesitation, the results of my own experience, perhaps I may say the lessons derived from my own faults and mistakes.

There are some difficult problems, as I have just said, that no doubt require the highest powers, the nicest adjustment, and the best illumination. Many obscure points will be cleared up by the use of these agencies. But for common employment in histology a working distance which admits the use of covers of ordinary thickness is, to say the least, very convenient. May I hint, in an undertone, that a great deal of time and trouble is often expended in the task of "adjustment for cover?" — so much that a non-adjustable objective sometimes proves a relief for which one is devoutly thankful.

My own impression is that the ordinary diaphragm is of little consequence where the mirror or lamp gives easily every degree of obliquity. With high powers a very minute opening brought close up to the slide is much valued by some working microscopists. I have within a day or two seen a very ingenious arrangement of this kind in the laboratory microscope of Messrs. Bausch & Lomb, — a convex diaphragm in shape like a table-bell, simple and manageable, as it seems to me, and likely to approve itself useful.

The use of the achromatic condenser is far less general than I should expect it to be from my own experience of its value. I agree with Dugès, who first used it in an efficient way, that the thickened and blurry outlines of microscopic images seen by common illumination are painfully displeasing to one who is accustomed to the brilliant distinctness given by a pencil of light passed through an achromatic combination.

I do not think the singular revelations of structure made by employing polarized light are enough insisted upon. I do not remember any text-book where the extraordinary way in which it brings out the structure of bone, for instance, is referred to, — a fact with which I have been familiar ever since I began to use the polarizing apparatus belonging to my Chevalier's microscope.

I must insist on the great saving of wear and tear to the eyes afforded by the use of a *hood*, as it is called, or a screen to keep the light from the eye not in use, as well as in some degree from the other. Many persons shut the eye not applied to the instrument, and I venture

to say that if they do, they find it more fatigued than the one used. Here is one of my own screens or shades which nips a tube of any size, at any point.

There are those — my skilful and scientific friend, Dr. Fitz, is one of them — who prefer to work with the body of the microscope always vertical. They choose the short upright instruments, such as Oberhaeuser and other French makers since him have furnished, and more recently some of our own manufacturers have been putting in the market. They can dispense with the hood and all the contrivances for holding objects, and find great convenience in handling their slides. In examining objects in fluid, except in thin films, the vertical tube and horizontal stage are absolutely necessary, unless the tube has a joint containing a prism, a form which may be considered obsolete except for the chemical microscope. But I think few workers would be content to give up the great ease and comfort derived from the inclined position, and almost all the better instruments are now capable of every inclination from the vertical to the horizontal.

It would be pleasant to speak of all that has been done for microscopic science in this country; of the noble contributions to embryology, anatomy, pathology, which have come forth from Cambridge and from Washington; of all that we owe to our devoted students of nature from the days of Professor Bailey to the present time. I should like to live over again in words the triumphs of Charles Spencer, who, "in the backwoods of America," as our English friends put it, wrought lenses that turned the London makers paler than blue glass would make them look, and with angles of aperture that straddled far outside of the limits which Andrew Ross, the king of them all, declared to be the boundaries of the possible. I visited Mr. Spencer twice at Canastota, a small interior town with the burnt stumps of the forest trees all round it, and felt that I was a pilgrim to the microscopic Mecca.

I should like to speak of the admirable workmanship of the stands by Zentmayer, and of the very cheap and serviceable instruments furnished by other leading manufacturers of New York and Philadelphia.

I have had the wholly unexpected pleasure of a visit this very day, since writing what I have just read, from the two great masters who have made the reputation of American microscopes, — Mr. Spencer and Mr. Tolles, — and I hope I have the honor of counting them among my audience. Their presence shall not prevent my alluding once more to the large debt we owe them. We Americans are sometimes thought to be too forward in asserting the claims of our countrymen. But it must not be forgotten that our compatriots have often had to contend with a jealousy that ignored their existence, or a dishonesty that cheated them of their due. As an evidence of this I will refer to the manner in which the name of Mr. Spencer was coolly dropped from

the second edition of Quekett's Treatise on the Microscope, for no better reason, I believe, than that he had insulted the nature of things and violated the order of the universe by doing what King Andrew Ross had declared to be an impossibility. Or if I wished for a still more flagrant example of the treatment American inventions and discoveries are exposed to, I would point to Sir James Simpson's handling of the subject of anæsthesia, under the title Chloroform, in the eighth edition of the Encyclopædia Britannica, a piece of scientific manipulation hard to match in the history of discoveries and inventions.

All honor to the American philosophical artist who bettered the famous saying of another Western New Yorker, that "some things can be done as well as others," and showed the microscopic trinity of London that some things can be done *better* than others. Long may he live to add by his inventive genius to the triumphs of American science and art! As for our townsman, Mr. Tolles, of whom I have already made repeated mention, I cannot resist telling you that I have just received a little pamphlet from Philadelphia, in which the writer, a well-known and accomplished expert, Dr. J. Gibbons Hunt, uses the following words, a little labored in expression, but intelligible and flattering to us of Boston:—

"The power to direct your steps at will, while threading the labyrinth of optical construction, marks the master. That Mr. Tolles can do. In him are greater optical possibilities in the construction of lenses than in any other maker, and my judgment is based solely on work." The meaning of which is that he makes the best objectives Dr. Hunt has ever made use of. In comparing a  $\frac{1}{16}$  of Tolles's with Powell and Leland's new  $\frac{1}{8}$ , Dr. Hunt says very neatly: "Alike in power, the English lens has a remnant of London fog in its construction; the Boston one is brilliant and clear as crystal. Moreover, the Boston glass shows clearly structural details beyond the penetration of the English lens, without change of focus." Wherever in a comparatively new civilization like that of America we find any good and genuine work done, it is not only our right but our duty to make the most of it, for the sake of its influence in stimulating the ambition of others to equal or excel it.

So if anything worthy of mention has been done in our own section of the country, or in our own town or city, we need not be afraid to commend it. I do not know enough of what has been done in other places to institute comparisons, nor do I wish to display any of that local vanity which is peculiar to Boston, London, Paris, Vienna, Timbuctoo, Berlin, Chicago, Peking, New York, Salem, Little Pedlington, and all other cities and towns, large and small, to be found in Mr. Lippincott's *Pro-nouncing Gazetteer of the World*.

But I must remind you that not only have we the great microscopic artist in our own city, but also that some excellent microscopic

work has been done here. Dr. Waldo Burnett was hardly twenty-six years old when he died, but the scientific journals of his time bear evidence of his extraordinary observing power, enthusiasm, and industry, which would certainly have made him preëminent before middle life. Dr. John Dean's admirable microscopic and micro-photographic monographs on the spinal cord have given him a permanent name in science. I look around me, vainly searching for the familiar face of Mr. Bicknell, whose exquisite preparations, eagerly sought for during his life, are doubly precious since his skilful hands have ceased from their labors. Where would my demonstrations be but for the aid of my younger friends who have helped me with their beautiful handiwork, such as the series of sections of the spinal cord, by Dr. Edes, the delicate injections of Dr. Quincy, the admirable preparations of the retina, by Dr. Wadsworth and your president, Dr. David Hunt?

I hope this association will encourage continuous persevering work, aiming at exhaustive knowledge in definite, however limited directions. The danger always is that one will play instead of working with this charming instrument. It is so pleasant to keep doing over and over what we know we can do well and easily! I cannot quote too often the delicious satire of Dr. Johnson, in the *Idler*, on the scientific people of his own day:—

“Some turn the wheel of electricity; some suspend rings to a load-stone, and find that what they did yesterday they can do again to-day. Some register the changes of the wind, and die fully convinced that the wind is changeable. There are men yet more profound, who have heard that two colorless liquors may produce a color by union, and that two cold bodies will grow hot if they are mingled; they mingle them, and produce the effect expected, say it is strange, and mingle them again.”

Have we not seen something like this in the case of some of our microscopic friends? I confess that I am rather tired of sections showing intestinal villi, and the vessels of the tongue, and the Malpighian corpuscles of the kidney. I should like, by way of change, to see our microscopists rivaling each other in displays of such objects as the taste-buds and the beaker-cells, the tubes of Henle and the organ of Corti, of Beale's spiral nerve-fibre, which my friend, Dr. Dwight, once exhibited to me, and many other things figured in Klein and in Frey, and copied by so many English and American compilers, who seem never to have looked upon them except in a scientific picture-book. We whose eyes are getting dim, whose minds are getting dull, whose knowledge is growing stale with antiquity, whose hands tremble over their old-fashioned microscopes, shall look to the members of this society to encourage the growth of science, and not merely to amuse themselves with seeing and doing over again what they have so often seen and done. If a reasonable

amount of systematic labor is performed by those who are as we know equal to the best kind of scientific work, no one will complain that an evening is now and then devoted to a purely popular exhibition of interesting and beautiful objects, familiar though most of them may be to all the students of natural science.

"The heavens declare the glory of God, and the firmament sheweth his handiwork." "God is great in great things," said Rousseau, "but in little things he is very great." I have looked at the vitellus of a *Lymnæa*, beginning its mysterious revolutions, with the same awe that I should feel in looking through a telescope at a nebula shaping itself into a sun or a planet. Why should we speak of great and small in connection with the Infinite? This invisible Universe to which the art of the optician has given you the master-key has wonders, grandeurs, miracles, all its own, and you have only to enter and take possession of a realm of knowledge into which, it may be, the intelligence of some orders of archangels has never penetrated.

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### RECENT PROGRESS IN OTOTOLOGY.<sup>1</sup>

BY J. ORNE GREEN, M. D.

*On the Connection between Disease of the Ear and Disease of the Trifacial Nerve.*—Two varieties of cases in which both the trifacial nerve and the ear were diseased have been observed by Moos.<sup>2</sup> The first group consists of cases where the auditory and trifacial nerves were both affected by a cerebral disease; of these he has seen four examples: one brought on by injury, two by cold, and one of unknown origin but followed later by ataxia. The nervous disturbances were on both sides, and only the sensitive fibres of the trifacial were affected. In three of the cases the affection of the trifacial preceded that of the acoustic nerve; in the traumatic case the two nerves were affected simultaneously. The symptoms of the trifacial were, first, a temporary hyperæsthesia, followed in some cases by neuralgic pain, then partial or total anæsthesia; the symptoms of the acoustic were severe subjective noises which became weaker as the deafness increased. The deafness came on very rapidly in three of the cases, and remained in two, while the third case was permanently improved by the use of the constant current. No accurate diagnosis was made of the condition of the brain.

The second group consists of cases in which the middle ear was distinctly diseased and an affection of the trifacial showed itself either as the accompaniment of, sequel to, or the precursor of the ear disease. The symptoms in the trifacial were those of neuralgia of one of its branches, on the same side as the ear disease. The most frequently

<sup>1</sup> Concluded from page 585.

<sup>2</sup> Virchow's Archiv, vol. lxxviii.



affected was the first branch, the least frequently the third. The neuralgia was sometimes intermittent, sometimes continuous; the sensitive points of Valleix were not constant; the pain was very variable, generally only in one branch of the nerve, although in one case it involved all the sensitive branches. The following is a synopsis of the cases: supra-dental neuralgia of the right side preceding an otitis media purulenta of the right ear; chronic purulent inflammation of the tympanum on the right with supra-orbital neuralgia of the right side; chronic purulent inflammation of the right tympanum, with a pearl tumor in the cavity and supra-orbital neuralgia of the right side of one and a half years' duration, completely relieved by the removal of the tumor and the subsidence of the inflammation in the ear; fistulous openings in the mastoid, from chronic inflammation with supra-orbital neuralgia on the same side, relieved by incision over the mastoid; acute inflammation of the mastoid, with phlebitis of the sinus lateralis, with neuralgia of the trifacial on the same side; acute purulent inflammation of the right tympanum with typical trifacial neuralgia on the same side.

*Disease of the Nervous System from Ear Disease.* — The extra-aural symptoms caused by a simple purulent inflammation of the tympanum are well considered by Hughlings Jackson<sup>1</sup> in a terse and careful article on the above subject. The affections of the nervous system resulting from the tympanic disease, as given by him, are (1) neuralgic pain, (2) paralysis of the facial, (3) scrofulous tumor in the brain, (4) cerebral or cerebellar abscess and meningitis, (5) pyæmia, (6) hemiplegia, (7) epilepsy or epileptiform seizures, (8) aural vertigo.

(1.) The neuralgic pain he only considers in general, without discussing the affections of the different nerves as is done by Moos in the preceding article. He regards it as merely symptomatic of an exacerbation of the tympanic disease, and says that, as a rule, it does not precede or usher in cerebral abscess or meningitis, but sometimes does precede paralysis of the face, and has thus misled to the diagnosis of rheumatic facial paralysis.

(2.) He has seen double facial paralysis from double tympanic disease, but thought it very rare. In one-sided facial paralysis he calls attention to the fact that the oblique position of the uvula, often spoken of as dependent on the facial paralysis, is in reality common in healthy persons, and when due to real paralysis is associated with a paralysis of the vocal chord of the same side, as he thinks, owing to affection of the bulbar part of the spinal accessory nerve or its nucleus. A true paralysis of the palate, associated with a facial paralysis and a tympanic disease, he considers due to intracranial disease and not to the tympanic disease. Facial paralysis with tympanic disease he regards as not a cerebral symptom when it is uncomplicated, but rather as a bone symptom,

<sup>1</sup> British Medical Journal, March 24, 1877.

showing an extension of the tympanic inflammation in an unfortunate direction. It may be the precursor of intracranial disease, but is rarely so, and when it is, it is independent of the intracranial trouble; "that is to say, the ear disease, by distinct processes, happens to do two entirely different things at once or in quick succession."

(3.) What Jackson names a scrofulous tumor he describes as a mass of tubercle found in the cerebrum or cerebellum in the place of an abscess from the ear disease. The symptoms, he says, cannot be distinguished except for their chronicity, from those of cerebral abscess. He cannot say positively that they were connected with the ear disease.

(4.) The differential diagnosis between meningitis and abscess in many cases of acute cerebral disease occurring with ear disease he thinks is impossible, but abscess has, in his experience, been the most common. As a rule in ear cases convulsions and hemiplegia appear late, and in many cases not at all. Headache and vomiting often lead to the diagnosis of stomach trouble, but the intensity of the headache, its persistence, its occurrence in unusual places, and the "purposeless" nature of the vomiting, with a clean tongue, prove the erroneousness of this theory. Active delirium in ear cases is by no means indicative of brain trouble, and should not be trusted until acute non-cerebral disease has been carefully excluded. The most trustworthy symptoms of acute brain disease are not mental, but rather severe headache, vomiting, constipation, retracted belly, and slowness and irregularity of the pulse. Optic neuritis frequently exists.

In many fatal cases of abscess of the brain no rupture of the abscess or of its vessels is found, and Jackson thinks that in these cases it is the pain which kills.

(5.) Pyæmia from ear disease may be mistaken for meningitis or abscess. Severe rigors, great rises and falls in the temperature, delirium without severe headache, are marked symptoms. In meningitis from an injury to the head there may not, however, be severe pain.

(6.) Hemiplegia in children with ear disease sometimes occurred without convulsion or loss of consciousness, and in such cases it is suggested that venous thrombosis with local softening was the cause, although in the cases seen no autopsy could be obtained.

(7.) In regard to epileptiform seizures with ear disease the usual explanation that they are due to reflex irritation is not accepted by Jackson, but he suggests the hypothesis that the aural disease leads to disease in Hitzig's and Ferrier's region, or else that venous thrombosis causes local softening. For both of these theories he thinks he has seen indirect evidence.

(8.) Aural vertigo he considers always due to irritation of the auditory expansions within the labyrinth, either from disease there or disturbances from without. It might be caused by almost any kind of

ear disease, and might be paroxysmal or chronic. The diagnosis is not certain, but can be approximated by bearing in mind the five chief causes of vertigo, which are, (1) stomachic (2) nervous, (3) ocular, (4) epileptic, (5) auditory. Jackson lays stress on the loss of perception of certain notes of the musical scale as pointing to disease of the cochlea.

*Auditory-Nerve Vertigo.*—In a paper on what has been variously called auditory-nerve vertigo, labyrinthine vertigo, and Menière's disease, Dr. Gowers<sup>1</sup> calls attention to the association of this form of vertigo with other symptoms which lead to a reference of the disease to other organs than the real seat of the trouble, the labyrinth.

The evidence on which the pathology of auditory vertigo is based is, he says, of three kinds: the frequent association of paroxysmal vertigo with defect or disturbance of the functions of the internal ear; some few pathological facts which show the existence of a disease of the semicircular canals; and, most important of all, the well-known experimental evidence of the connection between the functions of the semicircular canals and the maintenance of the equilibrium of the body. The theory, advanced by Goltz and accepted by Mach, Breuer, and Crumb-Brown, is that variation in the pressure of the endolymph which fills the labyrinth cavity is the cause of the phenomenon, although in what way this is produced is not yet decided. The conclusion to be derived from a clinical study of the cases is that the morbid action causes a motor tendency to turn which is felt as subjective vertigo; this so disturbs the equilibrium of the body that the sufferer is thrown to the ground or feels a sense of corresponding movement or mere instability according to the severity of the attack. The sensation in the slighter forms is always in the same direction with the actual movement in the severer attacks: a mere sensation of movement in external objects is always from the side towards which the patient falls in the severer attacks. On this account Dr. Gowers lays particular stress upon the character of the vertigo as an important aid in diagnosing its cause.

The derangements of hearing accompanying this form of vertigo are of two kinds, namely, evidence of undue excitation of the auditory nerve, subjective noises either permanent or at the time of the paroxysm, and a greater or less defect of audition. This defect of audition may be so slight as to be discoverable only with great care: the late Mr. Hinton pointed out<sup>2</sup> that it might be limited to the perception of sound conducted through the bones of the skull, and the same fact has been noticed by others. This is considered an important aid in the diagnosis, for if the labyrinth is unimpaired, the sound of a vibrating tuning-fork or a watch placed on the bones of the head is well heard, and a closure of the mea-

<sup>1</sup> The Diagnosis and Treatment of Auditory-Nerve Vertigo. *British Medical Journal*, March 10, 1877.

<sup>2</sup> *Guy's Hospital Reports*, 1873.

tus intensifies the sound very perceptibly; if, however, the labyrinth is impaired, closure of the meatus diminishes the intensity of the sound. Gowers has also found that although the tests with the tuning-fork may be perfect, those with the watch will sometimes show an impairment of the labyrinth; he also calls attention to the fact that while either or both of these tests by bone conduction show labyrinth trouble, the same tests by the meatus show no change, from which he concludes that testing the bone conduction with closure of the meatus is all-important for the diagnosis of labyrinthine disease.

The explanation of the vomiting which often results from labyrinthine vertigo is found in the connection of the nucleus of the pneumogastric with that of the auditory nerve in the medulla. This gastric disturbance is liable to mislead, particularly as it is found that in subjects of auditory vertigo, whose equilibrium nerves and centres are deranged, a gastric disturbance may excite a paroxysm of the special vertigo to which they are liable. Several marked cases of this are given; one in particular is quite typical of labyrinthine vertigo: a gentleman in perfect health while walking with a friend was suddenly "whirled around," and fell on his right side, the action being so violent that his friend was knocked over. There was no loss of consciousness, and in a few moments the vertigo subsided and he walked home. Two days after there was a similar attack, and although he attempted to support himself by a railing he was forced to the ground on the right side, and there was loud roaring in the left ear. The third attack occurred in bed, when the bed seemed to be rolling from the right towards the left side. In the fourth attack, less severe, all objects seemed to move from the right towards the left side. Tests showed that the watch on the skull was heard in the right ear but not at all in the left. The noise in the left ear and the defective "perosseal audition" for the watch in the same ear point to that ear as the seat of the trouble, and the movements in the attacks were such as would be expected from disease of that ear, namely, from the affected ear towards the opposite side. In this case there was a very marked association between the vertigo and gastric disturbance.

The differential diagnosis of auditory from gastric vertigo depends first on an impairment of the function of the auditory nerve, as shown by deafness, tinnitus, and loss of power of hearing a watch in contact with the skull; secondly, on the character of the vertigo. Gastric disturbance, Gowers says, produces a vague sense of disturbed equilibrium; labyrinthine vertigo is generally definite, giving a sense of movement in a certain direction, but is occasionally vague. On this account definiteness in the sensation is more valuable as a symptom of primary labyrinthine disease than the absence of definiteness would be in excluding such a disease. Vomiting, dyspepsia, and diarrhœa after an attack

of vertigo are not evidence that dyspepsia is the cause of the trouble, and it should be remembered that gastric derangement before the vertigo may be a primary cause of the vertigo, or may merely excite an attack in an already deranged equilibrium centre.

Although in auditory vertigo loss of consciousness at the time of the paroxysm is very rare, still it does sometimes occur, and can then be readily mistaken for an attack of apoplexy or epilepsy. A rapid return of consciousness with a persistence of the vertigo, the absence of local paralysis of any kind, a history of previous attacks of a similar nature, and the symptoms in the ear, already spoken of, would generally be sufficient to distinguish the disease from apoplexy. In a first attack, especially if severe, the diagnosis might for a time be impossible.

The differential diagnosis of auditory vertigo from epilepsy is more difficult, for it is well known that a sensation of vertigo often attends the slighter attacks of epilepsy. In both diseases the feeling is the same, and depends on an "incipient motor process," but in ordinary vertigo the movement is often not a mere compensatory action to maintain the equilibrium, but the patient is thrown to the ground with violence, as the result of what Ferrier calls a discharge of a motor centre, as in epilepsy. The definite character of the vertigo is not such a help in distinguishing auditory from epileptic vertigo as is the persistence of the vertigo between the paroxysms and its long duration during the paroxysms; also if it is produced by sudden movements of the head, it is probably auditory vertigo. Vomiting is also much more frequent in auditory vertigo than in epilepsy, while loss of consciousness is rarely seen, and then only in the severer attacks of auditory vertigo, while it is almost always present even in the slighter attacks of epilepsy. These symptoms, with the detection of defective audition, especially in hearing vibrations through the skull, will usually suffice for a diagnosis.

In regard to the treatment of auditory vertigo, while acknowledging that it is often an obstinate affection, Gowers thinks that by studying the peculiarities of each case much relief can often be afforded. As his paper shows that in auditory vertigo other conditions than those in the ear often concur in causing the special vertigo, the relief to these other troubles will often give relief. Care in diet and regimen, an antacid, bismuth, and belladonna will often relieve when the auditory vertigo is produced by a gastric derangement. To lessen the sensitiveness of the nervous structures he advises the use of the bromides of potassium and ammonium, with the addition of belladonna. Other sedatives he has found of no effect. In a syphilitic case specific treatment is required, while in some cases seen, quinine and salicylate of soda acted beneficially. Where there is evidence of an irritative process, blistering behind the ear has seemed useful; where there was a gouty tendency, colchicum and potass were of benefit.

At the conclusion of his paper, Gowers calls attention to the artificial production of auditory vertigo. The sense of confusion with tinnitus after quinine is well known, but a distinct auditory vertigo, with deafness and defective perosseal audition, he has produced in a very marked degree by salicylate of soda and salicylic acid.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

FEBRUARY 19, 1877. *Meningitis simulating Intermittent Fever.* — DR. J. T. G. NICHOLS read a paper upon this subject.

DR. FITZ asked if the case could not have been one of meningitis arising from jaundice.

DR. NICHOLS thought not, as the chills began on December 21st, and the jaundice did not appear until January 12th.

DR. FIFIELD asked if there was any stress laid upon the spasm of the leg mentioned.

DR. NICHOLS replied that this appeared about a week before the commencement of illness; it did not recur, and there was no enlargement of the veins or any abnormal condition of the leg noticed.

DR. FIFIELD mentioned the case of a man who, while at business, suffered from severe cramp in the leg; on returning home at night he had a rigor, and died a few days after from pyæmia.

Dr. Fifield also remarked that, in recent foreign publications, mention was made of a series of cases of meningitis supposed to be of pyæmic origin. One case in particular was mentioned where a pleuritic effusion was removed by tapping; the patient, for a time much relieved, soon entered the hospital with chills, fever, sweating, and irregular temperature, and died. At the autopsy, the condition of the brain very much resembled that of the case reported by Dr. Nichols.

Dr. Fifield said that at a discussion which took place not long since among English physicians, the ground was taken that it was not necessary to have a wound to give rise to pyæmia; that it might depend upon impure air, malaria, etc.

DR. BROWN, referring to the latency of cerebral symptoms, even where meningitis may be quite marked, mentioned the following case, which he once saw at the Massachusetts General Hospital: —

A man, apparently going from his work, was picked up in the street, and supposed to be intoxicated. He walked into the ward without difficulty, and died that night. At the autopsy, meningitis with purulent formation was found. Another case of advanced pulmonary disease, showed cerebral symptoms only twenty-four hours before death. Post-mortem examination showed three abscesses of considerable size in the brain.

DR. FITZ thought that the condition of the spleen in Dr. Nichols's case refuted the theory of pyæmia, as under those conditions the spleen becomes enlarged and softened, which was not the case here.

DR. WEBBER remarked that the case reported by Dr. Nichols resembled in some respects, especially in its periodicity, a case of caries of the vertebræ he had once seen.

The child had nearly recovered when measles supervened. The family removed into a malarial district, and the child began to suffer from chills, fever, and sweating, coming on every third day. Quinine abolished the attacks once or twice, but they soon returned regularly, though with less severity. Meningitis, affecting the brain, followed, and was supposed to be an extension from that of the spine. The question might be raised whether it was not of pyæmic origin dependent on the caries.

Dr. Webber added that recently centres of temperature have been found in the brain, and the theory has been advanced that we may have spasms of temperature, by irritation of these centres, in the same manner that we get spasms of muscles.

DR. FISHER said that, having known of this case of Dr. Nichols', he had at the time suggested that perhaps the chills were what might be called nervous chills, judging from a somewhat similar case he had once seen in a lady of extreme nervous susceptibility, and that they did not depend on malaria.

DR. ELLIS asked the society if the chills arising from nervous exhaustion were not usually unattended with fever and sweating.

DR. FISHER said that the case referred to by him had profuse sweats.

DR. WEBBER said that he had usually seen the three stages present in such cases.

DR. BOARDMAN mentioned the case of a lady who, after confinement, had chills for four or five days in succession, attended with fever and sweating.

DR. C. E. STEDMAN remarked that a patient of his, once after confinement, had a chill followed by sweating and a temperature of  $106^{\circ}$ , after trouble with the nurse.

DR. DRAPER asked if the exposure to defective sewage had been sufficient to produce a condition of blood-poisoning.

DR. NICHOLS said that the drain in the cellar of the bank had been very much out of repair for two months previous to the first chill, and the gentleman had been in the habit of writing at the bank two or three hours in the afternoon, exposed also to an atmosphere of coal gas.

His second attack of chills came on after exposure to sewage gas in his own house. The defect in the sewer was immediately remedied, and no other member of the family was affected, though the brother of a child sick with diphtheria was removed to this gentleman's house, and soon after was taken with the disease, whether from exposure at home or after removal it was not possible to state. A son who was in the bank suffered much from headache, which he attributed to the gas.

DR. WEBBER remarked that he had somewhere seen a report of cases of meningitis depending upon coal gas.

*Congenital Absence of the Head and Neck of the Femur.* — DR. FIFIELD referred to a case of congenital absence of the head and neck of the femur which he once saw at La Charité, in Paris. The patient, an elderly woman, suffering from progressive locomotor ataxia, was walking across the ward when a loud

cracking sound was heard, and referred by the patient to the right hip. It was supposed at the time that a fracture of the neck of the femur had taken place, but at her death, three days after, it was found that a large abscess, occupying the space of the head and neck of the femur and the cotyloid cavity, which were wanting, had ruptured. A published report of the case may be found in Garnier's *Dictionnaire Annuel* for 1875.

*Foreign Body in the Eye; Removal of the Organ.* — DR. WADSWORTH showed an eye removed from a boy fourteen years old, with the following history. One year ago, while striking a percussion cap, he received a piece on the eye, and lost sight immediately. There was no pain then or since. The eye had become shrunken and very irritable. At the time of the operation a piece of copper was seen projecting through the cornea, though nothing was perceptible on examination three days previously. Two points of interest in the case were that the shrinking had caused no pain whatever, and that the foreign body had begun to work itself out so quickly.

MARCH 5, 1877. *Glaucoma.* — DR. HAY read a paper giving a report of four cases of glaucoma; one case of glaucomatous depression of the disc, but without increase of tension; and one case in which the symptoms were not at the time typical of glaucoma, but which may have been a later stage of the disease.

DR. WADSWORTH referred to the fact that glaucoma followed facial erysipelas in one of the cases reported by Dr. Hay, and said that he had seen a case, four or five years ago, in which also glaucoma appeared to follow swelling of the face.

A woman, twenty-eight years of age, had had four years previously an ulceration of an eye tooth, with swelling enough to close the right eye for some days. When the eye could be again opened she observed that its vision was impaired, and it continued to fail, without any pain, until, at the time he saw her, the sight was entirely gone. The pupil was not enlarged, and the iris responded to the stimulus of light in the other eye, but the tension was somewhat increased, there was glaucomatous cupping of the disc, and pulsation of the retinal artery at its edge. She did not know that she had ever tested the vision of the right eye separately before the swelling which had closed it.

With reference to a new theory of glaucoma of which Dr. Hay had spoken, Dr. Wadsworth remarked that it might be said there had lately been three new theories advanced. Knies, to whose theory Dr. Hay had alluded, had found inflammatory products in the mesh-works forming the canal of Fontana, through which the outflow of the intra-ocular fluids should chiefly take place, and therefore referred the increased intra-ocular tension to the blocking up of this channel.

Klein considered the cupping of the disc, in certain cases at least, in which there is an increased tension discovered, to be dependent upon a sclero-choroiditis posterior limited to the narrow district about the nerve which is bounded by the vascular circle of Zinn, a circle formed by the anastomosis of branches of some of the ciliary arteries within the substance of the sclera.

Schnabel asserts that there is in glaucoma no opacity in the vitreous, but



that the opacity exists only in the cornea. This should hardly be called a new theory, however, but rather a modification of existing views. Schweigger also states that opacity of the vitreous in glaucoma has never been demonstrated.

As to the theory of Knies, Dr. Wadsworth said a part at least of the eyes which he had examined had undergone very considerable degeneration and inflammatory changes, and when there had been decided inflammation it could not excite surprise that signs of inflammation existed in the canal of Fontana. This alone would not, however, prove that the blocking up of the canal was the essence of the disease. Knies himself admitted that he had not been able to find evidence of blocking up of this canal in cases of glaucoma simplex. Of the class of cases referred to by Klein, Dr. Wadsworth said he had observed the following, about a year ago: A man, fifty years of age, had observed for two or three years a diminution of sight in the eyes, and for a year had noticed a halo about the moon or a lamp, and on entering a warm room from the open air there was often a fog before the eyes for a few moments. There had never been any pain. The anterior part of the eyes appeared normal; the iris reacted well to light; tension was not increased, indeed not up to the normal physiological limit at that age. The media were perfectly clear. There was, however, marked cupping of the disc, with strong pulsation of several arterial branches at the edges of the cup in both eyes. The field of vision was much and irregularly contracted in one eye, in the other less contracted. Vision was  $\frac{1}{2}$  in each eye; accommodation deficient in amount. Operation was not advised. The patient had been heard from indirectly, some months later, and the above condition was reported as having changed but very little.

DR. DERBY referred to the comparative rarity of glaucoma in this country, and said that in his own practice he had seen but sixty-one cases of glaucoma in seven thousand eight hundred and forty-six patients, while in Berlin he had seen iridectomy performed for glaucoma nearly as often as once a week.

DR. HAY said he thought the cases were less frequent now than ten years ago.

With reference to the operation of iridectomy for glaucoma, DR. JEFFRIES said that an incomplete removal of the iris often gave a good result in checking the disease, and was probably due to the fact that in attempting to follow the rule and get the iris cut up to the periphery, we naturally made our corneal cut well back into the sclerotica. In this way we get an elastic wound, so to speak, to the relief of the ocular pressure. Dr. Robertson's operation of trephining the sclerotica accomplished perhaps even more. Forty or fifty years ago, globes tense from glaucoma had been directly punctured with a small knife to the relief of pain, etc., and such had been the practice of Dr. Jeffries' father.

As regards the operation referred to by Dr. Jeffries when the iris had not been cut off far back towards its ciliary attachment, DR. WADSWORTH said it would seem that the success in such cases was dependent on the principle first advocated by Wecker in 1869, namely, that the effect of iridectomy in glaucoma was not due to the removal of a portion of the iris, but to the formation

of a cicatrix in the sclera, which, being of a less density than the normal scleral tissue, admitted a filtration of the intraocular fluids through it. According to this principle, the removal of a portion of the iris was only a complication of the operation, generally necessary because of its tendency to prolapse through a wound so peripheral as must be made. Quaglini and others had reported cases successfully treated by sclerotomy alone. Trephining the sclera, as Robertson had recently done, appeared to involve the same principle.

DR. HAY remarked that Hancock's operation perhaps had the same effect.

DR. WADSWORTH said that in Hancock's operation vertical incision, in an antero-posterior meridian, was made through the point of junction of the iris, ciliary body, and sclera, with the idea of dividing a ligament supposed to encircle the eye in that region.

*Fibroid of the Uterus.* — DR. PORTER showed a uterine fibroid, the size of an orange, which he had recently removed. It was attached by a pedicle just inside the os. The patient, about forty-five years of age, had suffered for three years past with excessive hæmorrhage at each menstrual period, continuing for a number of days.

*Broken Bougie in the Perinæum.* — DR. PORTER showed a whalebone bougie which he had removed by perineal section, after being passed into a false passage and broken off far back in the perinæum. The patient was suffering from retention of urine. The physician in attendance, after breaking the bougie, passed a sound into a false passage, and cut down upon that.

*Foreign Body in the Bladder.* — DR. PORTER showed also a bougie which he had recently removed from the bladder by the lithotrite. The patient entered the Massachusetts General Hospital, saying he had a bougie in the bladder. He had a stricture after a gonorrhœa contracted twenty years ago. Ten years ago he had perineal section performed, and was advised then to frequently pass the bougie. Lately he has been able to pass only a No. 4, and this had suddenly slipped into the bladder while he was walking about the room.

*Diphtheritic Cast of the Trachea and Bronchi.* — DR. WHITTIER showed a membrane developed during the progress of a case of diphtheria, representing a cast of the trachea and the subdivisions of the bronchi, and gave the following notes of the case: Annie, five years old, sister of the patient, died on February 20th, nine days after the appearance of a diphtheritic membrane in the fauces, having but a few hours before her death, and after an emetic, expelled a well-formed cast of the trachea.

On February 20th, Mary, six years old, complaining only of a slight pain in her neck, was found to have a diphtheritic deposit, extremely narrow, extending downwards behind the right tonsil, and by night a membrane exceptionally white and lustrous covered the slightly projecting left tonsil. Without much variation, this membrane remained adherent about seven days, differing in this quite important particular from the later developed tracheal membrane. On the 25th, she was thought to have become a little hoarse during the night. Increasing difficulty of breathing and an attack of dyspnœa on the evening of the 26th led to an attempt to give an emetic, and in the struggle

she expectorated in long shreds membrane sufficient to line the trachea. On the morning of the 27th she threw off a perfect cast of the trachea, and in the evening of the same day an imperfect cast, with many fragments, and on the afternoon of the 28th the specimen presented to the society for examination. The subsequent re-development was equally rapid, and in thirty-six hours later the child died, the trachea apparently more obstructed than before.

The urine on the 25th was normal; on the 26th contained albumen, renal epithelium, small granular casts and some blood; on the 28th, one per cent. of albumen, large and small granular and epithelial casts.

Other evidences of systemic infection were wanting, and but very slight cervical glandular enlargement was present at any time.

DR. BOWDITCH asked whether, if another emetic had been given combined with tonic treatment, there would have been any possibility of protracting life until the new formations should cease.

DR. WHITTIER said that relief after vomiting continued from five to seven hours only.

DR. CURTIS suggested the subcutaneous injection of apomorphia to produce strong emesis without depression.

DR. ARNOLD referred to a case of diphtheria where the trachea was dilated instead of contracted, and the membrane had undergone cretaceous degeneration. The child lived ten days.

*Insanity complicating Pulmonary Disease.* — DR. BOWDITCH mentioned the case of a physician who became very much excited upon spiritual subjects, believing that he had a call from the Lord to perform certain acts. There was no fever, nor acceleration of the pulse. Forty-eight hours after the first manifestation of the disease he was seized with a severe convulsion, which was relieved by bleeding. A week later, though his mental condition was but very little disturbed in the meantime, he had a second convulsion, which lasted for three days and nights and was relieved only by chloroform. At the end of that time he awoke and asked for drinks. His mind became clear, but he complained of pain in the left side, attended with cough and increased rapidity of the pulse; temperature 102° F.; the patient was much prostrated. Physical examination of the chest showed entire flatness over lower half of left lung, absence of respiration in corresponding part with crepitant râles over left breast. The heart was dislocated somewhat towards the right. Thoracentesis was performed after the usual manner, and although the trocar seemed to pass into a cavity, yet only a few drops of fluid were obtained. A second tapping, a little above the first, had the same effect; iodine externally, and iodide of potash internally were prescribed.

DR. BOWDITCH said he was in doubt as to the nature of the disease, whether there was a tuberculous condition present, or gelatinous masses containing fluid, or what.

DR. FOLSOM remarked that he had once heard Dr. Ellis read a paper on diseases of the lungs coincident with disease of the brain, as shown by a case of pneumonia complicating meningitis, and it had been observed that cerebral symptoms often disappear as the pulmonary symptoms increase, and *vice versa*, in cases of insanity complicating lung trouble.

*Silicate of Potassa Bandage.* — DR. T. B. CURTIS compared a bandage made of silicate of potassa with one made of dextrine, and remarked that the former was much firmer than the latter. It had dethroned dextrine entirely in Paris. Silicate of soda, often used in this country, is far inferior to silicate of potash, as it stiffens very inadequately.

March 19, 1877. *Leucocythæmia.* — DR. MORRILL read a paper upon leucocythæmia, with marked reduction in the size of the spleen, which will appear in full.

DR. WOOD remarked that on examination of the urine in this case the proportion of uric acid to urea was found to be about one part to twenty-seven, whereas the normal proportion is one part to from fifty to eighty parts. This same condition has been noticed in other cases of leucocythæmia; in one case reported, where the urine was examined every day for a month, the average proportion was one part to sixteen.

DR. WOOD inquired as to the diet in Dr. Morrill's case, as a nitrogenous diet was known to increase the amount of urea.

DR. MORRILL answered that the diet was general and not confined to nitrogenous articles.

DR. ELLIS said there were three points of special interest in this case, namely, the diminution in the size of the spleen, the formation of abscesses, and the soufflé about the heart. The first is also noticed in disease of the lymphatic glands. The second may in some cases prove to be a collection of leucocytes, and not an abscess resulting from an additional inflammatory process. Such collections have been found in the large veins, and might be mistaken unless care was used. The third may have arisen from anæmia or displacement of the heart upwards, thus interfering with the circulation through the large vessels leading from the heart.

With reference to reduction in the size of lymphatic bodies, Dr. Warren remarked that he had seen a tumor of the neck so diminish, under the use of Fowler's solution, that the circumference of the neck was reduced from fifteen to thirteen inches within a few days, and a week later, even more than that. When the medicine was omitted the tumor would increase in size and *vice versa*.

DR. ELLIS asked if the change in the size of the spleen was determined by percussio or palpation.

DR. MORRILL answered, by the latter means, the reduction being very evident by this method.

*Impacted Fracture of the Radius.* — DR. DWIGHT spoke of a case of fracture of the radius, which was remarkable simply from the manner of its occurrence. The patient, a lightly built girl of about eighteen years of age, was chopping wood some ten days before her appearance at the dispensary, in December, 1875. In bringing down the axe her elbow struck against a post behind her, giving her severe pain. The wrist swelled, but the trouble had not been recognized. It was an unmistakable impacted fracture of the lower end of the radius, which must have been caused by compression between the post behind and the handle of the axe, as it struck the wood, in front.

KRAUS ON THE DISEASES OF MAN.<sup>1</sup>

THE work before us contains 970 pages, exclusive of preface and index. In these pages are treated the diagnosis, therapeutics, and aetiology of nearly all, if not all, the diseases known to the physician and surgeon, including all the specialties. The most general of practitioners cannot fail to find in this little book something upon any case, except purely obstetrical, that he may be called upon to treat.

Such an attempt naturally inspires distrust, and we think at once of students' compendiums and *vade-mecums*.

This first impression, however, is not fully sustained by an examination of the book, and the amount of valuable material compressed into it is really very great. Such compactness cannot of course be attained without sacrifices, and we find nothing of pathology or morbid anatomy, nothing of history, and but little discussion of varying theories. It is chiefly well-ascertained facts and the most generally received views that are recorded, and the treatment recommended is modern and rational.

Such a book is not for an ignorant person to take as his first source of information on any topic, but for one more or less familiar with the treatment of the same subjects on a larger scale it is an excellent remembrancer or outline map. In the prescriptions the metric system is employed, in accordance with a government order making the use of this system obligatory in the writing of recipes.

"In case recipes come in to be dispensed in which the doses of medicines are prescribed according to the old weights, apothecaries are obliged to change them into the new weights by the accompanying table and put up the prescription accordingly."

No better idea of the style and scope of the book can be given than by quoting an article therefrom, for which purpose we take the first page after the introduction:—

## CEREBRAL HYPERÆMIA.

*Forms.* We may separate, according to the most prominent symptoms, the cephalalgic, psychic, convulsive, and apoplectic.

*Causes.* Mental exertion, sun-stroke, alcoholism, organic disease of the heart, emphysema, diseases of the liver, hæmorrhoids, etc., and in general all the circumstances which cause either active or passive congestion.

*Symptoms.* These vary greatly according to the degree, and are in general either irritative phenomena (headache, sensitiveness to light, noises in the ears, vomiting, delirium, hallucinations, spasmodic movements, contractions, etc.) or phenomena of depression (giddiness, loss of consciousness, pareses, paralyses.)

*Therapeutics.* In more acute cases, with vascular excitement, and when the

<sup>1</sup> *Diagnose und Therapie der Krankheiten des Menschen.* Mit Zugrundelegung der Lehren und Recepturen der ersten medicinisch-chirurgischen Autoritäten, und Anführung von 1500 Receptformeln nebst einem Anhang über Balneologie. Von Dr. B. KRAUS.

*Diagnosis and Therapeutics of the Diseases of Man.* By Dr. B. KRAUS. Vienna. 1877. (From E. Steiger, 22 and 24 Frankfort Street, New York.)

strength of the patient permits it, a copious venesection is indicated. Against the head symptoms leeches to the mastoid process, ice bags, mustard poultices to the neck, derivatives. In chronic cases a determination of the cause is important.

R̄ Sal. amari (magnes. sulph.) . . . . .	20.00
Aq. font. . . . .	400.00
Ac. sulph. dil. . . . .	2.00

S. Teaspoonful every two hours.

For derivation by the bowels.

R̄ Inf. fol. sennæ. . . . .	
E. . . . .	8.00 ad 140.00
Syr. simpl. . . . .	40.00

Use through the day.

R̄ Aloes . . . . .	
Fol. lauris . . . . .	āā 2.00
Ext. nuc. vomic. . . . .	1.00
Olei croton . . . . .	gtt. 2.
Pulv. althææ . . . . .	q. s.

Ft. pill. No. 45.

One pill night and morning.

In congestion of the brain in consequence of habitual constipation.

It is manifestly impossible that a book of this kind should be written with which one could everywhere agree; we can only say that, so far as we have examined, no subject has suffered from neglect, and the author seems familiar with the more important advances of recent years. It is so far the superior of the other books of the class to which we at first naturally refer it that it hardly belongs there at all. Used in the way we have suggested, and in the light of more voluminous and more special works, it can hardly fail to be very useful.

## MEDICAL NOTES.

— In a recent exchange, Fothergill, after discussion of the causes of sleeplessness, tabulates as follows the remedies which have been hitherto most highly recommended for this complaint:—

1. Opium is indicated when sleeplessness is caused by pain; when irritation of the vascular system is present, aconite and antimony are to be combined with it.

2. Hyoscyamus is of service when sleeplessness depends on disease of the kidney.

3. Chloral hydrate is inefficacious in sleeplessness dependent on pain, though it is a hypnotic *par excellence* in the sleeplessness of fever, particularly in children. This remedy is injurious in ill humor, brain exhaustion, and in the sleeplessness of melancholy.

4. Bromide of potassium acts as a sedative either on the brain cells or the vessels of the brain; it is indicated in those cases where peripheral irritations are present, and is very beneficial in the sleeplessness which is the result of maladies of the pelvic organs.

5. Alcohol is a powerful hypnotic in those cases in which sleeplessness comes from sorrow, ill humor, and mental disturbances.

## BOSTON CITY HOSPITAL.

CASE I. *Specific Neuralgia*. — Edward T., aged fifty-six, entered the service of Dr. Stedman December 5, 1876. In hospital five years ago with broken leg. He states that he had a sore on his penis thirty years ago. Between six or seven years ago had an attack of pain in the tibia and knee. This has troubled him more or less ever since. Has been troubled by slight cough for several years.

Now enters hospital with pain in right leg and in lumbar region. Appetite good and bowels regular. Pulse 67. Temperature 98.2°. States that he had an ulcer on his leg fourteen years ago. Five grains of iodide of potassium three times a day.

December 8th. Deep injection of chloroform, five minims, at night ordered. To be given behind trochanter.

December 10th. Injection gave great relief. To be continued.

December 13th. Effect of chloroform lasts about twenty-four hours.

January 3, 1877. Has improved under chloroform treatment. Still has pain in hip.

January 10th. Chloroform injections now repeated every two or three nights. Says he is doing finely.

January 18th. Treatment has been continued. Improvement has been steady.

January 27th. Gaining steadily, though he still has some pain in back. Cantharides plaster to back.

January 29th. Improving.

February 1st. Still asks occasionally for an injection.

February 5th. Discharged, relieved.

Injections gave relief for twenty-four hours, and also seemed to have a permanent improving effect. He attributed his comfort to them, and even when pain was not very acute desired an injection.

CASE II. *Intercostal Neuralgia*. — Bernard C., carpenter, aged forty-two, entered the service of Dr. Stedman December 7, 1876. Patient was in hospital November 13th with "subacute rheumatism," and was discharged November 27th, well. Two days after leaving the hospital he was exposed to "cold drafts," through working in an open shed. He was taken next day with cough, which has increased in severity up to the present time. Now complains of pain in back, ankles, and left side. Pain on taking a long breath, and is unable to lie on left side. Appetite poor, bowels regular. Pulse 80. Temperature 98.6°. Cotton jacket ordered.

December 11th. Complaints of pain in left side. Blister, two by two inches, to be applied.

December 13th. Deep injection of chloroform to be given to relieve pain in back.

December 17th. Chloroform gave considerable relief.

December 18th. Blister, two by two, to be applied to left chest.

January 3, 1877. Much improved. Tincture of muriate of iron, twenty drops three times a day.

January 8th. Discharged, relieved.

CASE III. *Sciatica*. — Sarah McK., aged fifty-one, housekeeper, entered hospital December 15, 1876. Family history good. Twelve years ago fractured left leg twice, and since has walked on crutches. Nine years ago had pain over left hip, which lasted several months, and then passed off. Four years ago this pain reappeared, and has troubled her more or less. About three months ago pain also appeared in left arm and right wrist, and has lasted ever since. Appetite good, bowels regular. Pulse 76. Temperature 98.1°.

December 20th. Deep injection of chloroform ordered. Injection to be given in seat of greatest pain, as marked by the patient, generally behind the great trochanter, or in the course of the sciatic nerve.

December 21st. Five minims of chloroform were injected. The patient expressed herself as very much relieved.

December 22d. One eighth of a grain of sulphate of morphia was injected this evening. The patient felt relieved, but not so much so as after the chloroform, and noticed the difference between the drugs at once. Patient generally more comfortable.

December 24th. Chloroform, five to ten minims, given now every other night.

January 1st, 1877. Injection has been repeated as often as before. Pain in hip much lessened. Asks herself for the chloroform, and thinks nothing else can do her any good.

January 12th. Still improving. She now has the injection every third or fourth night. The pain is said to be much less acute than when she came in.

January 21st. Improvement constant. Chloroform is now given every fifth night.

January 29th. Injections are now given sometimes every third or fourth night, and sometimes every fifth or sixth. The patient still asks for injection when in pain. Sometimes desires it in two places, as in hip and knee, the same evening. When two injections are given, about eight minims are given in each place.

February 17th. The patient for the last two weeks has been treated by Dr. Webber with electricity. This is given every other day. Still improving. Chloroform given every fifth or sixth day.

February 23d. Chloroform once a week. She says that after the first two injections of chloroform she was more comfortable than she had been for four years, and could touch right leg without shrinking.

March 1st. Has been constantly improving since the last record. She now has injections at irregular intervals, about once in two or three weeks.

March 19th. The patient complains of pain, and the injections are repeated.

March 20th. She is much relieved.

March 22d. She complains of pain again, and asks for chloroform. Injection repeated with relief.

March 26th. Injection repeated with relief.

The patient now walks about the ward with the aid of crutches, though with



considerable difficulty and labor. Says she has very much improved since she came in.

CASE IV. January 13, 1877. *Sciatica*. — P. A., stone-cutter, aged forty-six. Family and personal history good. Two years ago had "sciatica." The patient now complains of a pain which follows a line drawn from behind the great trochanter of the right leg to the ankle. This pain has been shooting and darting in character, but is now a constant and wearing one. On the right buttock a surface three inches square is denuded of epidermis. This was caused by a blister applied by himself. Appetite good, bowels regular. Pulse 80. Temperature 99°.

January 14th. Five minims of chloroform to be deeply injected behind the great trochanter.

January 17th. Last evening injection was repeated. This relieved the pain very much, though the patient complained of the pain caused by the insertion of the needle, and of numbness near the seat of puncture.

January 19th. Last evening eight minims of chloroform were injected in two places, behind the trochanter and in the muscles of the calf. This morning there is great improvement.

January 21st. A small circumscribed induration is felt in the calf at the seat of puncture. Some pain in thigh. Ten minims of chloroform given behind trochanter.

January 23d. Omit chloroform. Iodide of potassium, ten grains three times a day.

January 27th. The patient now uses soap liniment night and morning, and says this relieves the pain. Cantharides plaster, two by two, behind trochanter.

January 29th. The blister gives great relief.

January 30th. He is gaining very fast.

February 12th. Discharged, well.

February 21st. The patient reëntered the hospital this day with renewal of the old trouble. Pain is not so severe as before, but running the same course down the leg. Eight minims of chloroform were injected behind the trochanter.

February 22d. The chloroform removes the shooting pain, the effects being perceptible in five minutes, without drowsiness or feeling of stupidity. Some soreness produced at seat of puncture which lasts about twelve hours, and a swelling was felt which disappeared during the night.

February 24th. He feels a numbness in the affected leg from knee to ankle, but has no sharp pain. P. M. Sharp pain recurred. Injection repeated.

March 5th. No sharp pain since last record. Discharged, well.

CASE V. January 19, 1877. *Brachial Neuralgia*. — Margaret T., domestic; aged thirty; married. The family history is obscure. The patient was in the hospital two years ago, under Dr. Edes, with chronic rheumatism. She now has pain in the left shoulder and arm, shooting in character, but not constant. She also has pain over the cervical vertebræ. She says she has lost some power in that arm and side. Appetite poor, bowels constipated. Leucorrhœa; catamenia irregular. Pulse 72. Temperature 98.8°.

January 20th. Over seventh cervical vertebra in painful region there is a small circumscribed spot of induration. Blister to be applied. Iodide of

potassium, five grains three times a day. Inject ten minims of chloroform into substance of deltoid.

January 21st. Says her shoulder is better this morning than it has been for five weeks. No difference in temperature of two hands.

January 22d. The shoulder is very painful. Injection repeated. This P. M., the shoulder entirely free from pain.

January 25th. Some pain in head. Iodide of potassium, ten grains three times a day.

January 26th. Injection repeated this morning. The effects of the chloroform seem to last fifteen hours, during which time she is almost entirely free from pain. She complains also of pain in left side.

January 29th. No injection since the morning of the 26th. Patient has been free from pain since then.

February 5th. Discharged, relieved.

CASE VI. *Sciatica*. — Joseph G., carpenter, aged twenty, entered the hospital January 31, 1876. Family history good. He was sick four years ago with typhoid fever, but since then has been well till eight or nine weeks ago. Then he began to have a pain in right leg, running from the hip behind trochanter to the knee and sometimes to the ankle. The pain is not constant, and has been severe for two or three weeks only. Appetite good, bowels regular. Temperature 98.6°. Pulse 76.

February 2d. Eight minims of chloroform were injected this morning.

February 3d. Patient reports himself relieved.

February 5th. Injection repeated this A. M.

February 7th. Repeat injection, the former injection having given great relief.

February 8th. Sulphate of quinine, one gram three times a day.

February 17th. Condition much improved. He goes about the ward with but little complaint.

February 21st. Discharged, well.

CASE VII. February 8, 1877. Mary H., domestic; aged forty-three; married. Mother died of consumption. The health was good till three years ago, when she began to be troubled with "rheumatism" and "indigestion." For about six weeks she has complained of pain more or less severe, but generally worse at night. This is situated in right leg, and runs from behind the great trochanter down the back of leg to knee and sometimes to ankle. Appetite poor, bowels constipated. Temperature 98.5°. Pulse 68. Iodide of potash, five grains three times a day. Chloroform to be given by deep injection.

February 10th. Injection of chloroform does not seem to affect the pain.

February 14th. Pain less, and seems to be confined chiefly to knee and ankle.

February 15th. Iodide of potash increased to ten grains three times a day.

February 16th. Pain only in knee.

February 17th. Whole leg painful.

February 18th. Five minims of chloroform were injected each side of knee on account of severe pain there.

February 19th. She is easier this morning. No pain in leg.

February 21st. No pain in leg since the 18th. This afternoon complains of some soreness, but jumping and shooting pain has not recurred.

February 24th. Pain, though not acute, in both legs last night.

February 25th. Soreness of legs continues, but no sharp, jumping pain since the 18th.

March 5th. Dull pain in both knees, which were wrapped in cotton.

March 9th. Syrup of triple phosphate, two drachms three times daily. Now has no pain in hips. Generally better.

March 24th. No pain this morning. Patient improving. No chloroform since the 18th of last month.

CASE VIII. *Frontal Neuralgia*. — John R., marble-cutter, twenty-eight years old; entered hospital March 23, 1877. Generally healthy. For three weeks he has been confined to bed with a sharp and constant pain in the left frontal region, preventing sleep. No specific history. Photophobia. Eyes, examined by Dr. Wadsworth, were normal excepting conjunctivitis. Appetite fair, bowels regular, urine normal. Sulphate of quinine, two grains three times daily.

March 27th. No relief. Inject ten minims of chloroform at night.

March 28th. The pain in head was very severe before the injection. The injection was immediately followed by increased pain, but after two minutes all pain ceased, patient became drowsy, and slept all night. The place of puncture is tender and swollen to the size of an English walnut. There is no intolerance of light.

March 30th. Though somewhat contradictory in his statements, he has had but very little supra-orbital or temporal pain since the injection. Has been sitting up and walking about. Appetite improving, slight fullness at seat of injection.

At his own request he is discharged, relieved.

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MAY 12, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	440	21.24	27.46
Philadelphia	850,856	276	16.87	22.88
Brooklyn	527,830	199	19.60	24.31
Chicago	420,000	154	19.19	20.41
Boston	363,940	115	16.46	23.39
Providence	103,000	39	19.69	18.34
Worcester	52,977	18	17.67	22.00
Lowell	53,678	20	19.37	22.21
Cambridge	51,572	12	12.09	20.54
Fall River	50,370	10	10.32	22.04
Lawrence	37,626	10	13.82	23.32
Lynn	34,524	13	19.57	21.37
Springfield	32,976	4	6.31	19.69
Salem	26,739	11	21.39	23.57

AMERICAN GYNCOLOGICAL SOCIETY.—Programme of the second annual meeting, to be held in the hall of the Boston Society of Natural History, corner of Berkeley and Boylston streets, Boston :—

May 30th. — 1. Dilatation of the Cervix Uteri for the Arrest of Uterine Hæmorrhage, by Dr. George H. Lynnian, of Boston.

2. The Corpus Luteum, by Dr. John C. Dalton, of New York.

3. Excision of the Cervix Uteri, its Indications and Methods, by Dr. John Byrne, of Brooklyn.

4. The Pathology and Treatment of Puerperal Eclampsia, by Professor Otto Spiegelberg, of Breslau, Prussia.

5. The Principles of Gynecological Surgery applied in Obstetric Operations, by A. J. C. Skene, of Brooklyn.

6. A New Theory as to the Function of the Third Sphincter Ani, so called, by Dr. James R. Chadwick, of Boston.

May 31st. — 7. Some Cases illustrating the Operation of Induction of Premature Labor ; the best Methods and Results, by Dr. R. A. F. Penrose, of Philadelphia.

8. Annual Address on Medical Gynecology, by the president, Dr. Fordyce Barker, of New York.

9. The Intra-Uterine Treatment of Flexions, by Dr. Ely Van de Warker, of Syracuse, New York.

10. On the Necessity of Caution in the Employment of Chloroform during Labor, by Dr. William I. Lusk, of New York.

11. Subsulphate of Iron as an Antiseptic in the Surgery of the Pelvis, by Dr. H. P. C. Wilson, of Baltimore.

12. The Relations existing between Pregnancy and Phthisis, by Dr. W. L. Richardson, of Boston.

June 1st. — 13. Is there a Proper Field for Battey's Operation ? by Dr. Robert Battey, of Rome, Ga.

14. A Case of Vaginal Ovariectomy, by Dr. William Goodell, of Philadelphia.

15. Sarcoma of the Ovaries, by Dr. Washington L. Atlee, of Philadelphia.

16. Tetanus after Ovariectomy, by Theophilus Parvin, of Indianapolis.

17. The Value of Electrolysis in the Treatment of Ovarian Tumors as seen in the Light of Recent Experience, by Dr. Paul F. Mundé, of New York.

The general profession are cordially invited to attend.

JAMES R. CHADWICK, *Secretary*.

THE CENSORS OF SUFFOLK DISTRICT will meet for the examination of candidates on June 7th. See advertisement.

BOOKS AND PAMPHLETS RECEIVED.—Excision of the Larger Joints of the Extremities. By G. H. Culbertson, M. D. Prize Essay. Supplement to Volume XXVII. of the Transactions of the American Medical Association. 1876. Philadelphia. (From A. Williams & Co.)

West Riding Lunatic Asylum Medical Reports. Edited by J. Crichton Brownell, M. D., and Herbert C. Mayor, M. D. Vol. VI. 1876. London : Smith, Elder & Co. (From the Publishers.)

The Discovery of Anæsthesia. By J. Marion Sims, M. D. (Reprint from Virginia Medical Monthly.)

Notes on New Remedies. Theodore Metcalf & Co.

He Holds the Fort of Heaven. (From F. W. Helmie, Music Publisher, Cincinnati.)

Hutchinson's Illustrations of Clinical Surgery. Fasciculus VII. Philadelphia : Lindsay and Blakiston. 1877. (From James Campbell.)

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A CASE OF LEUCOCYTHÆMIA; SUDDEN AND MARKED DIMINUTION IN SIZE OF THE SPLEEN.<sup>1</sup>

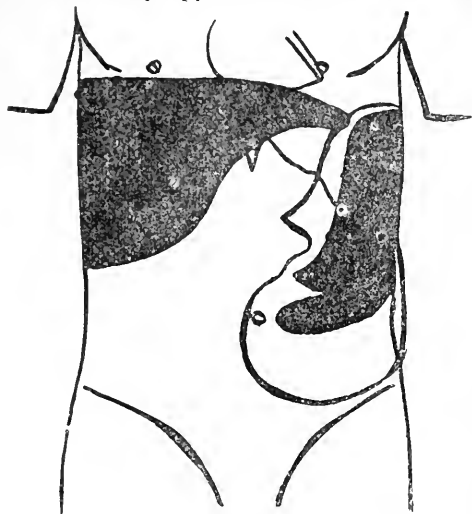
BY F. GORDON MORRILL, M. D.

J. H., twenty-five years of age, pressman in a linseed-oil factory, entered the Carney Hospital, October 5, 1875, with the following history: indulges freely in stimulants, but has always enjoyed good health until December, 1874, when he noticed a shortness of breath, slight cough, malaise in the epigastrium, and intermittent pains in the head and spine. A month later he had nausea and a spasmodic cough after eating. These attacks ended in vomiting a greenish fluid, after which both cough and nausea ceased. At this time he began to lose flesh, strength, and color. Soon his appetite failed, and continues poor at the present time. In April, 1875, he perceived that his abdomen was swelled. Three weeks later there was œdema of the feet and ankles. In May, 1875, he entered the Massachusetts General Hospital, where an enlargement of his spleen was discovered. He felt slightly relieved when he returned to his home in Chelsea. In July, 1875, he "had a chill almost every day at one o'clock;" also profuse night sweats and occasional attacks of epistaxis, to both of which symptoms he is still subject. In the August following, a severe attack of dysentery confined him to his bed during a period of three weeks. Two weeks previous to entering the hospital he suddenly became "entirely deaf" in the right ear. This condition lasted two or three days, when he partially regained the power of hearing as suddenly as he had lost it. A few days later the same symptom appeared on the opposite side, and still remains present. He is sure that he has lost forty pounds of flesh since the commencement of his illness.

October 7, 1875. His present condition is as follows: pallor very marked, — the mucous membranes of the lips presenting an almost bloodless aspect. Staggers when he attempts to walk, and is obliged to catch hold of the furniture of the ward to prevent falling; states that this symptom is partly caused by vertigo and partly by weakness. Tongue clean and pale. Pulse, 80, soft and regular. Bowels usually constipated, but he is subject to attacks of diarrhœa. On examination a

<sup>1</sup> Read before the Boston Society for Medical Observation, March 19, 1877.

tumor is very apparent, the outlines of which will be readily understood



by reference to the diagram. It is of firm consistency, dull on percussion, and is evidently the enlarged spleen, its hilus being plainly felt. Its edge, particularly of the portion extending from the costal cartilages towards and past the median line, can be readily grasped. It is very slightly sensitive, but firm pressure causes pain. The only enlarged glands to be found are a few small nodules in the right groin, and a well-marked swelling over the inner con-

dyle of right humerus. Examination of the lungs reveals nothing abnormal except dullness and absence of respiration over that portion of the left side which is encroached upon by the spleen. This extends in front from the upper border of the sixth rib, downwards; and behind from the eighth rib to the base of the lung. The apex of the heart is displaced, and its beat is felt in the fourth intercostal space, just beneath the nipple, which in this instance is situated directly over the fourth rib. The first sound is prolonged, and accompanied by a soft systolic murmur, which is transmitted towards the axilla. The aortic and pulmonary sounds are heard in their normal situations, the latter being distinctly accentuated. The area of hepatic dullness is increased and is merged into that of the heart and spleen on the left, as seen in the diagram. There is some œdema of the feet and ankles. The urine contains no albumen, and deposited a copious sediment (amorphous urates) on standing. Has never had syphilis, and there is no family history which sheds any light on present trouble. Iodide of potassium was prescribed in ten-grain doses, thrice daily.

October 14th. Dr. E. G. Cutler, pathologist to the hospital, presented the following report of the blood:—

Relative proportion of white corpuscles, 1: 1.+ red. The red vary in size from 5 to 10 micro-millimeters, and the white from 6 to 13 micro-millimeters,—the white being of three distinct sizes: size of ordinary red corpuscle normal, and abnormally large. Some contain a single nucleus; others two or three. Both white and red are of normal shape, but the red are lacking in color. Occasionally transient forms are seen, namely, pale red corpuscles with well marked nuclei. A few microcytes are occasionally seen.

October 15th. Diarrhœa. Iodide omitted. Astringents prescribed.

October 21st. Diarrhœa ceased yesterday. Blood, white 1 : 4 red. Tr. ferri chlorid. in twenty-minim doses ordered.

October 25th. Decidedly better. Appetite good. Hearing of left ear somewhat improved; that of right "as good as ever." Blood, white 1 : 2.9 red.

November 6th. Walks about the wards without support. Œdema has nearly disappeared. Iron omitted. Phosphorus gr.  $\frac{1}{8}$ , thrice daily.

November 16th. Blood, white 1 : 2.6 red.

November 18th. Phosphorus omitted on account of gastric disturbance. To resume muriated tincture.

March 4, 1876. Blood, white 1 : 3.7 red. Later in the month a severe peritonitis confined the patient to his bed, and he was in a critical state for two weeks. As soon as he recovered, the iron was continued until the middle of April, when all medicine was omitted.

May 16th. Blood, white 1 : 3.7 red. Œdema completely gone.

June 29th. Blood, white 1 : 3.1 red. Patient comfortable and appetite good.

July 1st. Liq. potass. arsenitis gtt. v., thrice daily. This was continued until July 31st. During the last five days of the month a dysentery existed which became so severe as to preclude the further use of arsenic.

August 2d. Blood, white 1 : 6.7 red.

September 1st. The patient has recovered from his dysentery, but has had severe chills during past three days, for which quinine has been given. To-day is much better; the quinine is to be continued.

September 3d. Blood, white 1 : 4.4 red.

October 1st. Blood, white 1 : 2.9 red. Quinine omitted and bicarbonate of soda ordered in  $\mathfrak{v}$ i doses, thrice daily.

October 8th. Blood, white 1 : 2.9 red. Swellings like wheals on buttocks.

October 15th. Blood, white 1 : 2.4 red. Glandular swellings in left groin, and over saphenous opening.

October 22d. Blood, white 1 : 2.1 red. Omit soda. Five grains of ergotin injected into cellular tissue over spleen. At the same time tr. ferri chlo. ordered in twenty-minim doses. The ergotin was injected on alternate days until the 28th, when there was so much tenderness over the spleen that the arm was used, and the ergotin continued until

November 2d. Temperature, 101° F. Pulse, 90. Complains of headache, nausea, and weakness. There is evidently peritonitis in region over spleen, but no change in size or consistency of the tumor.

October 29th. Examination of the blood showed white 1 : 2.4 red.

November 12th. Iron continued since last entry. Loose discharges. Omit iron.

November 14th. Blood, white 1 : 3.1 red. Iodide of potassium ordered, ʒss. thrice daily, and unguent hydrarg. rubbed in over seat of tumor. Complains of obstinate and prolonged priapism, which prevents his sleeping.

December 10th. Blood, white 1 : 2.3 red. Iodide omitted, and gr.  $\frac{1}{6}$  of iodine ordered, thrice daily. The mercurial inunction to be continued.

December 12th. No change in any respect.

December 15th. Severe diarrhœa during past forty-eight hours. "Felt something give way in his left side day before yesterday," and has noticed that his discharges have been "full of matter." This morning the diarrhœa abruptly ceased. On examination a decided reduction in the size of the tumor was noticed, as seen in the diagram. Unfortunately there was no opportunity to examine the stools.

December 18th. Blood, white 1 : 2.6 red. Patient comfortable; continue iodine.

December 25th. Urine examined and albumen discovered; also casts, some of which showed evidence of fatty degeneration.

January 1st. No change in tumor since 15th; all medicine omitted.

January 5th. Some epistaxis requiring plugging posterior nares. Shortly after this Dr. C. J. Blake kindly examined the man at my request, and his report about his hearing is as follows :—

External auditory canals normal. Right membrana tympani slightly concave, and opaque in consequence of thickening of the mucous coat; the manubrial plexus congested. Left membrana tympani presents the same appearance, but less congestion of manubrial plexus. Eustachian tubes patent. Hearing distance: watch, right  $\frac{1}{18}$  ft.; left 0. Watch heard when pressed on right temple, but not on left. Tuning fork between teeth heard in right ear. Tuning fork externally: right, all tones; left, fifth only. After air douche: right,  $\frac{1}{18}$  ft.; left, 0 as before. In a letter recently received by Dr. Blake, Professor Moos of Heidelberg states that he has seen but one case of leucocythæmia in which the hearing was affected, and knows of nothing in the literature of the subject which explains the cause.

March 4th. Diarrhœa last week; appetite not so good as usual. Size of tumor the same as when the reduction was first noticed. Some enlarged cervical glands on both sides. The area of hepatic dullness has not changed since the patient first came under observation.

March 10th. The following report of the urine received from Dr. E. S. Wood: Color, pale; reaction, acid. Sp. gr. 1017. Urophæin +; indican normal. Urea normal; uric acid greatly in excess. No sugar; a trace of albumen; no bile pigments; chlorides normal; sulphates earthy, and alkaline phosphates slightly deficient.

Sediment: uric acid crystals and amorphous urates. Hyaline, granular, and a few fatty casts. A few renal epithelial cells.



Amount of urine for 24 hours . . . . .	1653 cub. cent.
“ urea “ . . . . .	37.94 grammes.
“ $P^{2}O^{5}$ “ . . . . .	1.38 “
“ Cl “ . . . . .	10.22 “
“ uric acid “ . . . . .	1.22 “
“ indican “ . . . . .	.0186

Uric acid : urea = 1 : 31.

Some of the symptoms present in this case seem worthy of attention. The report of the condition of the blood is very accurate, the figures given being the average obtained from ten separate examinations made by Dr. Cutler on each particular date. At no time has the relative proportion of white corpuscles been so large as when the patient first came under observation (white 1 : 1. + red). It will be noticed that it was smallest August 2, 1876 (white 1 : 6.7 red). This corresponded to the period when arsenic had been omitted forty-eight hours, and the dysentery had existed one week. It is difficult to say with any degree of certainty to what this apparent improvement was due, but the fact that a marked change (from white 1 : 1. + red to white 1 : 4 red) was noticed in October, 1875, after a diarrhœa lasting only five days, leads me to attribute it to the draining away of serum by the bowels, it being probable that the red corpuscles flow more freely than the white from a prick or wound of any kind, when from any cause the amount of the liquor sanguinis is diminished. The change too, which took place during the five days following the cessation of the diarrhœa (from white 1 : 4 red to white 1 : 2.9 red) would seem slightly to favor this theory. By referring to the record of the blood we see that the relative proportion of the white cells may vary when the disease is left entirely to itself; but at no time has there been so marked a change as those noted as following the dysentery and diarrhœa. The change which followed the sudden diminution of the splenic tumor was not worth noticing. No diminution of the ratio of the white corpuscles followed the administration of bicarbonate of soda. This would seem to disprove (so far as leucocythæmia is concerned) the opinion resulting from the experiments of Mons. Pupier, who found that the use of alkalies increased the number of red corpuscles in the blood of man and the lower animals, and so reported to the French Academy of Sciences last year. The duration of the disease in this case and the patient's present condition form a marked exception to the general rule.

The average duration in thirty cases of the splenic and glandular forms of leucocythæmia which I have collected was eighteen months. According to Hardy and Labarraque<sup>1</sup> the average duration of all forms is sixteen and a half months. When merely a few superficial glands are affected, a long time may elapse before any serious trouble results.

The symptoms so generally observed in cases of leucocythæmia (di-

<sup>1</sup> Nouveau Dictionnaire de Médecine, Paris, 1875.

arrhœa, dyspnœa, epistaxis, etc.), are readily accounted for if we choose to accept what appears to be a rational theory of the pathology of the disease. Concisely stated, this is (according to Hardy and Labarraque) a deposit of lymphadenoid tissue and cells in parts not naturally containing them, and their increased proliferation in parts where they are normally present. As a sequence there is imperfect performance of functions in the organs or tissues where such changes exist, an increase of the white cellular elements of the blood, and engorgements of portions of the capillary circulation, with perhaps rupture and hæmorrhage. The wheal-like swelling, recorded as present on October 8, 1876, would be accounted for by the presence of masses of white cells which had escaped from the ruptured capillaries. The obstinate priapism which has been observed in several instances is thought to be caused by rupture of the vessels of the corpora cavernosa, or by a thrombus in the veins of the bulb. The theory that it is caused by a deposit of white cells in the lower part of the spinal cord is now considered untenable.

By far the most remarkable symptom is the sudden diminution in size of the spleen. I doubt if this had any connection with the treatment of the case. The question which arises is, Was the fluid which escaped by the bowels (for no other explanation of the sudden diminution of the tumor seems at all reasonable) really a portion of the contents of the spleen itself, or was it the result of a localized peritonitis or of an abscess which had burrowed from the spleen and become encysted? If either of the latter, then a collection of pus (or leucocytes) must have existed, external to the spleen, from the time when I first saw the patient, and its situation was too deep for fluctuation to be detected. I do not know that I am at all justified in speaking of the collection of fluid which escaped (as I believe) from the spleen itself as an "abscess." That it softened and broke down to such an extent as to lead to its discharge, by means of an inflammatory process, I am by no means sure, nor could this point have been settled even if the discharges had been examined, there being no means that I know of by which a difference between pus and a collection of leucocytes can be demonstrated. Abscesses of the spleen form independently of leucocythæmia, and make their way in almost any direction. There is no reason that they may not exist, too, as a complication of the disease. Of one thing I feel sure, and that is that a portion of the contents of the spleen escaped by the intestines, and that the reduction in the tumor was caused thereby. Under these circumstances it would not be reasonable to expect any improvement in the condition of the blood. Had an abscess of the spleen been the only morbid change present, the proportion of white corpuscles would have decreased rapidly after its evacuation. In a case recently reported in the *London Lancet*, a diagnosis of leucocythæmia was made, when the unsuspected presence of pus was

the sole cause of the large number of white corpuscles (130 in a single field), and the number rapidly diminished as soon as the abscess was aspirated. M. Henri Browne, in a thesis published last year, cites a case of iliac abscess in which the white were to the red as 1:18. After its evacuation the ratio was 1:130. The same phenomenon has been observed in all diseases attended with suppuration. The presence of fatty casts in the urine is of course of serious import. This association of Bright's disease and leucocythæmia is exceedingly rare. That the amount of urea should be normal when the number of red globules was so much less than normal (the patient meanwhile leading a very sedentary life, and showing no special predilection for nitrogenous food), is very remarkable, and I can offer no explanation of the fact.

The treatment has been necessarily empirical, and after a somewhat careful investigation of the cases where benefit is alleged to have been obtained from the remedies which were employed in this particular instance, I believe that one or two of them are useless if not positively injurious in leucocythæmia. The following are all the cases which I have been able to find where improvement has been claimed to have been due to the use of phosphorus:—

CASE I.<sup>1</sup> A boy of sixteen, with marked enlargement of the spleen, and in whose blood the white cells were “in undue proportion, but did not predominate to the degree expected from the extreme anæmia.” Phosphorus was given, and eight days afterwards symptoms of inflammation of the spleen were observed. Six days later the enlargement began to diminish, and the spleen gradually became so small as to be almost covered by the ribs. Meanwhile the patient gained strength and color. No definite account of the condition of the blood is given. When last seen the patient was sick, and ceased attending as an out-patient.

That this was a case of leucocythæmia, as usually defined, the blood showing white corpuscles in a permanent ratio of at least one to twenty, is by no means certain. At all events, the patient's condition when last seen leads us to an unfavorable inference as to his ultimate fate.

CASE II.<sup>2</sup> A man aged thirty-seven. Spleen greatly enlarged. Thirty to forty white corpuscles seen in a field. Three months after commencing the use of phosphorus the number of white corpuscles diminished to five or seven in a field, and the spleen began to decrease in size in a somewhat shorter space of time, without signs of inflammation. Three weeks later the man was discharged, with his blood in normal condition, except that the white cells were increased in size, and his spleen greatly reduced. Eighteen months later he died of what was called “rupture of the spleen.” The nature of this case is open to

<sup>1</sup> London Practitioner, January, 1875.

<sup>2</sup> London Lancet, July 10, 1875.

doubt (the statement was made last December, before the London Clinical Society, that at no time were there more than twenty white corpuscles seen in a single field) and the termination unsatisfactory.

CASE III.<sup>1</sup> A man aged forty-three, whose case was one of well-marked splenic leucocythæmia. After taking phosphorus twenty-seven days a diminution of about one inch in the diameter of the enlarged spleen was noted. One month later the patient died, although a week previous only seventy white corpuscles could be seen in a single field instead of one hundred and fifty, which number had been observed ten months earlier.

A considerable variation in the number of white corpuscles is not uncommon with any or no treatment, and a slight reduction in the size of the spleen has been noted as following simply the application of tincture of iodine. The termination of the case does not speak well for the effects of phosphorus; and how this remedy (which was originally used because its poisonous effects consisted partly in fatty degeneration of the liver, spleen, etc.) can be expected to expend its force on one particular organ and spare the others, it is difficult to conceive. At a recent meeting of the London Clinical Society the possibility of fatty degeneration of the kidneys being produced by its use was mentioned. That it has been used in scores of cases of leucocythæmia and lymphatic anæmia without producing the slightest good is a well-known fact.

The following cases<sup>2</sup> are cited as proving the favorable action of ergotin subcutaneously:—

CASE I. A girl with undoubted leucocythæmia was treated with five-grain injections of ergotin on alternate days. The spleen was found to be reduced in size eighteen days after the treatment was commenced. The condition of the blood at this time is not mentioned. Three weeks later the patient died.

CASE II. A man aged thirty-two, whose spleen was “not much enlarged,” and whose blood showed “eighteen to twenty white corpuscles instead of twelve or fourteen, was treated as Case I., and all symptoms disappeared in seventeen days.

Case I. died three weeks after the reduction was noticed, and Case II. was not one of leucocythæmia.

The few well-authenticated cases of recovery which I have seen mentioned were treated with iron and quinine, either alone or in combination. In Professor Moshler's monograph on leucocythæmia there are two cases given, and one is reported by Dr. Lloyd Roberts in the *British Medical Journal* of November 27, 1869. In the last case the blood presented all the appearances necessary to constitute leucocythæmia, but there was no enlargement of the spleen or of any of the superficial

<sup>1</sup> Canada Lancet, January 1, 1877.

<sup>2</sup> The American Journal of the Medical Sciences, vol. lxxix.

glands discovered. In conclusion, the points which this paper would tend to establish are :—

First. That the relative proportion of the white corpuscles may vary considerably without any corresponding change in the patient's general condition.

Second. That a reduction in the size of the spleen in leucocythæmia may be due to the escape of pus (or leucocytes), forming a portion of its contents, into the intestinal canal.

Third. That a reduction in the size of the spleen may take place without any symptoms of a lesion of continuity, and the patient's condition remain unchanged.

Fourth. That the last-mentioned phenomenon is occasionally followed by death a few weeks later.

Fifth. That in the existing state of knowledge of the disease the most rational and safest treatment is that termed "tonic."

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## RECENT PROGRESS IN PUBLIC HYGIENE.

BY F. W. DRAPER, M. D.

*The Nature of Contagium Vivum.*—The recent investigations of Professor Tyndall, and the discussions growing therefrom in English and French scientific circles, have given fresh interest to a subject which may be said to be fundamental to the theory and practice of hygiene, inasmuch as it has close relations with the ætiology of a very large class of the diseases which it is the aim of the sanitarian to prevent. Among the latest and most instructive of the contributions to this topic is a paper by Dr. J. Burdon Sanderson, read before the London Society of Medical Officers of Health<sup>1</sup> in January, 1877. Dr. Sanderson states that it is only by the investigation of particular cases, by clinical observations and pathological experiments, that accurate knowledge can be reached concerning the intimate nature of the process of infection. It is neither the organic form nor the molecular constitution of the morbid material that concerns us, but the action which it exercises within living bodies.

Contagium is defined by Dr. Sanderson to be a material which forms part, or which has previously formed part, of the body of a diseased person or animal, with respect to which it is known that if it is inserted into the body of a second healthy person or animal of the same species, the disease of the first will be communicated to the second. Consequently we cannot employ the word contagium without having in our minds the notion of conveyance, of transfer of material, even though the contact is most immediate. This being so, the question of the

<sup>1</sup> Public Health, 1877, page 55.

nature of contagion identifies itself with that of the characters of the material of conveyance. Although the opportunity for investigating these characters has been limited, — glanders, small-pox, and rinderpest being the chief fields of inquiry, — two facts have been determined, namely, (1) that, however invisible contagium may be, whether to the eye or microscope, it always presents itself (whether suspended or diffused, in aqueous and in gaseous media) in the form of concrete particles and never in that of a soluble chemical body or a gas, and (2) that it is distinguished from organized matter in general by possessing the power of resisting those chemical changes to which such matter is usually prone.

The characteristic property of contagium, the power which it possesses of originating a diseased process, is one which it acquires by virtue of its having been a constituent of diseased but living protoplasm. With reference to its actual condition, there are, therefore, two possibilities, namely, (1) that it is still living, and (2) that it has ceased to live. The fact that it has not undergone chemical change affords ground for assuming that it is still living, and that it may have sprung either from diseased tissue itself or from independent organisms in the tissue affected.

An interesting question in immediate relation with these views is with respect to the origin of septic bacteria and the part which they take in the process of putrefaction. The ground which the orthodox biologist holds now, as against the heterodox, is not that every bacterium must have been born of another bacterium — *omne vivum ex ovo* — but that every bacterium must have been born of something which emanated from another bacterium, that something not being assumed to be endowed with structure in the morphological or anatomical sense, but only in the molecular or chemical sense. So far, then, as the morphologist is concerned, germs have quietly given place to things which are ultra-microscopical, — to molecular aggregates occupying a border land between the living and the non-living; and so, analogous with the unformed or unorganized ferments of the human body, the ferments of the stomach, the pancreas, the blood, the saliva, and the liver. Vital physicists, at the present time, regard the question of the molecular changes with which the development of germs is associated as of greater consequence than the essential nature of the germs themselves. Accordingly, the most important investigations are being now directed to the elucidation of the chemical process of putrefaction.

However certain it may be that the initial infection by which a wounded surface begins to go wrong, that is, to become the seat of septic changes in the discharge, and of unhealthy action in newly-forming granulations, consists in the introduction of contaminating material from the atmosphere, this really affords no explanation of the subse-

quent development of the evil, for it is equally certain that those forms of contagium which are most virulent are not derived from primary inflammations, however abundantly the discharges may teem with bacteria. Clinical observation teaches that the virulent forms of infection occur only in association with a general process affecting the whole organism, which we therefore call septicæmia, and that the new inflammations which originate under the influence of this general change (secondary inflammations of serous membranes, of joints, of cellular tissue) yield products which exhibit a virulence and a contagiousness altogether out of relation with those of primary inflammations. Moreover, the bacteria found in malignant inflammations differ so much in form and character from those of ordinary primary inflammations, that with a good microscope it is possible to distinguish the exudation of a malignant peritonitis from that of a primary inflammation of the peritoneum. All that can safely be said, therefore, with our present knowledge of the organic forms (bacteria, etc.) which occur in contagious fluids is that "they are characteristic concomitants of the specific processes with which they are associated."

*The Registration of Disease.* — Dr. William Squire contributed an interesting paper on this subject at the last meeting of the British Medical Association.<sup>1</sup> He remarks that in the light of what has been accomplished in mortality registration, there is reason to predict that sanitary administration will find in the systematic registration of diseases immense assistance in promoting public health. Disease that does not directly lead to death yet often cripples development, destroys energy, or robs life of its joy and usefulness, would thus be met at its outset and be prevented, repelled, or defeated; for disease, not death, is the foe we are bound to oppose. A registration of all diseases is to be encouraged, the imposition of fines being restricted to those cases only in which it was found that infectious disease had not been reported. Without compulsory powers it would be impossible to make any scheme thoroughly effective. In all cases the responsibility of reporting the existence of infection should rest with the parent or householder. The obligation resting on the physician should be not that of acting in any way as an informant, but only such as would compel a clear, plain, truthful certificate of illness when called upon. Householders apply to the local authority to abate nuisances; they should report the ailments that befall their families. All acute diseases, all infectious diseases, all children's diseases, ought especially to be reported. The acute cases guide to where there is suffering, and where there is most need of health — often to the discovery of infectious illness of which it may be the local sign. The slightest cases of infectious diseases must be known and attended to.

<sup>1</sup> The Practitioner, January, 1877, page 61.

Any disease among children is likely to lead us to some of the causes deteriorating the general health, since children are the most sensitive to insanitary conditions. All the diseases we most wish to prevent are most active and fatal amongst children in the first five years of life ; in the next five or ten years, the constitutional or developmental diseases show themselves. These might often be arrested ; deficient air-space and much else might be remedied that leads to struma and disease of bones and joints, crippling growth and strength.

The great objection urged to the registration of disease is that it can never be perfectly exhaustive and must vary much in accuracy. The value of the work carried on at the Registrar-General's Department is dependent on its accuracy and completeness. The returns obtained are full and exhaustive for the whole country, and the powers of the government are exerted in their collection. What is necessarily omitted in such returns is more than compensated for by the element of certainty introduced. Without the patience, skill, and care devoted by Dr. William Farr to elicit the value of the facts thus collected, such great results would never have been obtained. This work has required the labor of a life to organize, assiduous and efficient assistance to maintain. Could we hope that the more numerous and less definite health-returns should be as successfully dealt with ? Some such assurance is required ; but let not the perfection of one system of registration deter or altogether prevent us from attempting another. Registration of sickness could never be perfect, but it has a function of its own in no way dependent on its embracing every form of disease. It would not be a substitute for the register of deaths ; it would give useful warning beforehand ; but it would only be of full use and value when taken in conjunction with the mortality return. The object is a different one, and our means may be modified towards its attainment.

Similar testimony as to the desirability and practical working of disease registration was given by Dr. Alfred Carpenter in his address on Public Health before the British Medical Association in August, 1876 ;<sup>1</sup> and by Dr. Francis Bond in an address before the British Social Science Association. In January of the present year, the (British) Society of Medical Officers of Health unanimously resolved "that in the opinion of the society, whenever a case of infectious disease occurs in any house or vessel, it should be the duty of the person in charge of the house or vessel, or of the person in charge of the case, to report the fact to the sanitary authority without delay ; and that it should be the duty of every medical practitioner in attendance upon any such case to give immediate information respecting its nature to the occupier or other person responsible for reporting it to the sanitary authority."

In commenting favorably upon the registration of cases of scarlet

<sup>1</sup> British Medical Journal, August 5, 1876. The Sanitary Record, January 20, 1877.



fever in force in this city (Boston) since the beginning of the present year, the *Lancet* takes occasion to remark that the section of our statute compelling physicians to report the existence of any case of infectious disease which may come under his notice deals directly with a difficulty which the English authorities will be speedily called upon to solve.

*Treatment of Town Refuse and Sewage.*—Professor Ansted, F. R. S., in a paper read before the Society of Arts, March 14, 1877,<sup>1</sup> described the methods lately introduced at Manchester and previously tried at Salford for the disposal of the refuse and sewage of towns. This refuse he explained as consisting of solid and liquid materials, namely: (1) solid excreta, animal refuse from slaughter-houses, decaying animal and vegetable matters collected from markets, house refuse (such as ashes and dry rubbish), and street-sweepings; and (2) urine and house-slops, waste-water from dye-works, breweries, and various manufactures, and waste-water from water-supply and rain. The process recently adopted at Manchester professes to dispose of all these various kinds of refuse, yielding as the results of treatment several perfectly innocuous materials, each having a definite value in the market, and reducing the small balance to a perfectly inert and harmless residuum; the whole operation being effected without involving any nuisance whatever. The method is essentially a combination of the dry-sewage system and combustion. By these means, during the year previous to August 31, 1876, in the city of Manchester, an inland river town of 359,000 inhabitants (nearly the population of Boston), the large quantity of 163,000 tons (500 tons daily) of refuse was disposed of in the manner alluded to. It is intended that the entire town refuse shall be treated in this way ultimately, so that the river Irwell, which has hitherto been made the main sewer of the city, shall be relieved of that unwholesome function.

The process at present in operation is in brief as follows: The household excreta are collected in pails, after the Rochdale plan. The material is deodorized, partly by ashes thrown into the pails in the course of their daily use, partly by a mixture of charcoal (the product of the combustion process) and carbolic acid. The pails are hermetically sealed during their removal from the houses to the works. The contents of these pails, arrived at the town yard, are emptied upon a floor so constructed as to separate the solids from the fluids, which latter fall into a well-hole, whence they are pumped at once into a receptacle connected with apparatus, called a concretor, where the aqueous parts are evaporated. The solid parts of the sewage, consisting of one third fecal matter and two thirds ashes, are ground up in mills like mortar-mills, with slaughter-house refuse, decayed fish, the concentrated urine obtained from the concretor, and a small quantity of gypsum to fix the ammonia. The produce is a manure without smell, and dry enough to be put into sacks and carried away.

<sup>1</sup> Public Health, March 16, 1877.

The street-sweepings, house refuse and garbage, and general rubbish, are carbonized in furnaces specially adapted for the purpose. The resulting charcoal amounts to upwards of forty per cent. of the weight of the material charred, and is available for deodorizing purposes. Other furnaces (called destructors) are used for the combustion of dry rubbish, and the clinkers which result are ground up with twice their weight of quicklime, and sold profitably for use in mortar. The waste heat from these destructor-furnaces is utilized in the operation of the concretors for evaporating the liquid (urine) portion of the pail contents.

Professor Ansted believes that the method employed is a satisfactory solution of the sewage question in its application to inland towns which cannot discharge their waste directly into the sea. The system requires no chemicals, no large extent of land, no costly apparatus, and no superior intelligence to work it. It checks the cumulative nuisance of polluted streams, and reserves for those streams the office of carrying only waste water and storm water to the ocean.

Another view of this important sanitary question is found in the report of the committee of the English Local Government Board, recently published.<sup>1</sup> Among the propositions advanced by that commission are the following:—

“That the retention for any lengthened period of refuse and excreta in privy cess-pits, or in cess-pools, or at stables, cow-sheds, slaughter-houses, or other places in the midst of towns, must be utterly condemned; and that none of the (so-called) dry-earth or pail systems, or improved privies can be approved, other than as palliatives, because the excreta are liable to be a nuisance during the period of their retention and a cause of nuisance in course of removal. . . .

“That town sewage can best and most cheaply be disposed of and purified by the process of land irrigation for agricultural purposes, where local conditions are favorable to its application, but that the chemical value of sewage is greatly reduced to the farmer by the fact that it must be disposed of day by day throughout the entire year, and that its volume is generally greatest when it is of the least service to the land.

“That towns situate on the sea-coast, or on tidal estuaries, may be allowed to turn sewage into the sea or estuary, below the line of low water, provided no nuisance is caused, and that such mode of getting rid of sewage may be allowed and justified on the score of economy.”

<sup>1</sup> Public Health, December 15, 1876.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

JUNE 10, 1876. *Spurious Pregnancy.* — DR. HOSMER read the case. May 26, 1876, I was called by a message of urgent haste to visit Mrs. G., supposed by herself to be in active labor, with delivery imminent. Her own opinion was fully indorsed by her mother, a woman of considerable experience as a monthly nurse. The case proved to be not one of childbirth, although in its external aspects closely simulating that condition. I make this statement here, thinking that a knowledge of the fact may add some interest to the history which follows : —

The patient is forty-three years of age, of general good health, of level head, of undoubted veracity, in size small among little women, and with a fair amount of experience in matters pertaining to gestation. Her first pregnancy terminated prematurely at six months, in 1860, three years after marriage. In February, 1862, she bore a female child at term. In June, 1863, she had, at term, a male child, which died in two months. In August, 1866, she miscarried at four months, and did the same thing again in June, 1870. Menstruation has always been perfectly regular, sometimes occurring after conception. In August, 1875, during the first half of the month, she passed through an ordinary period in the usual manner, and had no more menstrual manifestation for three months, in November, when it was very slight. Still three months later, in February last, she again noticed a trifling show after a laborious walk.

From August, 1875, she believed herself to be pregnant for the following very natural reasons : In her general condition she was sure of a close resemblance to what she had experienced in former periods of gestation. There was the suppression of the menses, already described. She had an uncomfortable sensitiveness to certain odors ; old aversions were renewed ; without sufficient cause she conceived strong personal dislikes. The mammae underwent the changes incident to pregnancy, including a deepening in the color of the areolæ ; they remained full and firm until May 12th, when they became softer, but did not lose much of their size. Morning sickness commenced the last week in September, and, though somewhat less intense than on former occasions, lasted, with some interruptions, until the following January. During the first week in this latter month she felt what she supposed to be foetal motion, and continued to do so until the latter part of April. Abdominal enlargement commenced in September and steadily increased until February, when it attained its maximum. At this time she measured forty-six inches around the waist, her normal circumference being only twenty-three. During what was reckoned as the ninth month, she perceived what she took to be the usual settling down of the gravid uterus. She says that in February her form seemed to undergo a peculiar change, so that the prominence looked as though it were posterior rather than anterior, and she was declared by her friends to be, according to their language, "hind side before." This extraordinary appearance persisted in some degree for a considerable time.

During the winter and spring the patient's face was full, with slight pallor, and there was some headache. For some time there was marked swelling of both thighs on their posterior surfaces. The urine, normal in amount, and examined a few days after my first visit, showed nothing but a very low specific gravity, 1005.

Thus much for preliminaries, and now for some material which makes up the later history of the case.

May 12th. The patient, with a full conviction that her confinement was approaching, felt some uterine pain, on hearing of a puerperal disaster which had occurred in the neighborhood.

May 18th. The pain returned for a short time.

May 21st. Began to flow quite freely, expelling coagula of considerable size, and continued to do so for two days without abatement.

May 24th. Severe pain convinced her that she was in labor, and compelled her to go to bed.

May 25th. Condition of things about the same.

May 26th. Not much sleep for pain. Early in the day water began to escape from the vagina; it was quite clear in color, came at intervals, several ounces at a time, and was supposed to amount to half a pailful in the course of twelve hours. During the entire day there was pain, severe, recurring frequently, bearing down, felt low in the back, and attended with profuse sweating. Occasional hæmorrhage, with small coagula, was also reported, but much less than had existed on the 21st and 22d. At ten P. M. I arrived, and the aspect and motions of the woman, as I saw her in bed, fully confirmed my expectation of finding her in busy labor. Upon making the usual examination, I found the vagina somewhat relaxed and soft, a cervix uteri of normal length, an os that would admit the tip of the finger. No marked enlargement of the body of the uterus could be discovered per vaginam. Upon placing my left hand upon the abdomen I found the same that the internal exploration had revealed, — nothing. The abdomen was absolutely flat, and the fundus uteri could be felt, but not with marked distinctness, in the hypogastrium. The fact of very moderate uterine hæmorrhage was the only positive thing made out. The abdominal fullness, which I cannot doubt existed in the morning, had, by the testimony of the attendants, disappeared in proportion as the liquid had escaped from the vagina.

May 27th. Pain very much diminished, and after this date was not felt. The same may be said of the hæmorrhage, with the additional remark that at no time was there the least fœtor about the vaginal discharge.

May 29th. Both breasts were swollen and painful for the whole day, and during the following week they were the seat of occasional discomfort. Convalescence progressed favorably.

June 7th. I made a careful digital examination of the pelvic organs. I ascertained nothing new, except a moderate ante flexion. It should be explicitly stated, although it is fully implied by the absence in these notes of all allusion to anything of the kind, that, so far as is known, nothing substantial was ever expelled from the uterus, which bore the slightest resemblance to any possible product of conception.

Leaving to the society the discussion of the case, I close with these suggestions: —

(1.) If my apprehension be correct, spurious symptoms may so closely simulate genuine ones as to leave in the average medical mind the most perplexing uncertainty, and establish in the maternal mind a transient certainty of existing pregnancy.

(2.) A fœtus may perish at any period, and yet all parturient action may be postponed until the expiration of nine months from the date of conception. I am not aware that this rule is restricted to cases of intra-uterine gestation.

(3.) The serious accident of extra-uterine foetation may except the womb from those changes of which it inevitably becomes the seat in normal pregnancy.

Dr. MINOT said he was reminded by this paper of a case, an account of which was printed two years ago. A woman had well-marked signs of pregnancy, which disappeared at the end of some eight or ten weeks; the catamenia, however, did not return. At the expiration of nine months from the supposed beginning of pregnancy hæmorrhage, with some pain, occurred, and a small fœtus, perhaps an inch in length, was thrown off from the uterus. He thought it possible that in Dr. Hosmer's case something may have been expelled.

*Uterine Lymphangitis and Perimetritis; Cloudy Swelling of the Kidneys.* — Dr. LYMAN read the case, and remarked, in addition, that there was no swelling, tenderness, etc., of the right knee; no change in the color of the complexion; no vomiting, the patient relishing her food all the time. The tongue was not coated till within the last thirty-six hours, and then it became typhoidal. Dr. Lyman said that if he should again have a similar case to treat he would give very large doses of quinine. In the present case the administration of ten grains twice within a few hours brought the pulse down to 110 and reduced the temperature a degree.

*Ovarian Disease; Ovariectomy; Recovery from the Operation; Death from Pulmonary Disease.* — Dr. DRIVER reported the case.

*Inversion of the Uterus; Death from Hemorrhage.* — Dr. ABBOT reported the case. The patient was a primipara who had been in labor eight or ten hours. Dr. Abbot reached the house at 3.30 P. M., ten minutes after the summons of the messenger, found the patient pulseless, with an inverted uterus between her thighs, the child having been born twenty or twenty-five minutes. The return was accomplished with great ease, and there was no further hæmorrhage, but the patient had flowed very profusely, and the bed was full of clots. Pressure was made over the abdominal aorta, and a lump of ice was introduced within the cavity of the uterus and retained there some time. Raw brandy was given freely, and the patient rallied somewhat, recovering her consciousness. The uterus contracted well. Soon afterwards, however, she sank, and died at five P. M., about an hour and three quarters after the birth of the child. The birth had been sudden, and there was a laceration of the perinæum into the anus, extending up an inch above the sphincter. Everything had followed the child immediately. The nurse had pulled the after-birth

away, but without using extraordinary force ; she had probably simply peeled it from the inverted uterus.

*Abortion and Retained Placenta.* — DR. WELLINGTON read the case. Mrs. A., aged about thirty-five, miscarried with twins last August, supposing herself to be about two months advanced in pregnancy. There was slight flowing before delivery. The after-birth did not come away at the time, but at intervals of two or three weeks afterwards by piecemeal, and at each time preceded by slight flowing.

On Saturday, April 15th, a three months' fœtus dropped out without pain or flowing. The after-birth was retained. Mrs. Lathe attended her.

I first saw her Wednesday, April 19th. No pain or hæmorrhage since miscarriage. Os open, but nothing could be felt. Ordered fluid extract of ergot. April 20th. No pain nor flowing.

April 21st. Pain in back to-day, perhaps from ergot. Slight flowing. Uterus as yesterday. Continue ergot. Finger can be passed one and a half inches into uterus, but nothing can be felt.

April 24th. Discharged yesterday a pretty large coagulum, and had headache all day.

April 26th. Very little flowing ; no pain. Considers herself well, and protests against further confinement in room.

April 29th. Feeling well ; no flowing, but no placenta.

May 12th (thirteen days after miscarriage). Taken yesterday with hæmorrhage and pain ; has been comfortable since last visit, with slight vaginal discharge. Placenta can now be felt high up in uterus, but attached at fundus ; finger can be passed around it, but cannot detach it without tearing it. Not much flowing. Has had a slight chill.

May 13th. Yesterday afternoon and night had four chills, each worse than its predecessor, at intervals of two or three hours. Reports having been drowsy for three days past. Her last chill was very severe, so much so that her husband, who called me in great haste, insisted that she could not live through another. Removed as much of placenta as could be reached with finger ; a portion, however, remained attached to fundus. Ergot and quinine were ordered.

May 14th. No more chills ; moderate flow from uterus ; some pains about hips ; slight headache.

May 15th. Discharge from vagina offensive ; a small piece of placenta came away, smelling badly ; no more chills.

May 16th. Not much vaginal discharge. Finger can be passed high up into uterus, but nothing can be felt. The patient recovered without further trouble.

Dr. Wellington said that his practice in such cases was always to pull away what he could get hold of.

Dr. ABBOT asked how much of the placental mass in proportion to the whole was retained in the case just read.

Dr. WELLINGTON replied that perhaps the larger half was retained.

Dr. LYMAN asked what objection there was in this case to the use of the placental forceps.

Dr. WELLINGTON answered that he had no objection to the use of the forceps, but the instrument was not at hand.

DR. MINOT inquired why the retained placental mass should not be removed at once by forceps, after dilatation with a tent, if necessary; and asked if there were not positive danger in leaving it in the uterus?

DR. WELLINGTON, in answer to a question, said that the pulse was very good, but that the temperature was not taken.

DR. LYMAN said he had seen several cases in which he had been much alarmed by chills occurring after confinement, in which nevertheless no serious result followed.

DR. WELLINGTON remarked upon the varied significance of chills. A man, a patient of his, was subject every three or four months to very severe chills, followed by a temperature of  $105^{\circ}$  and a pulse of 130, and these succeeded by sweating, after which he would go about his business. He once had stricture and rupture of the urethra, with which he was quite ill. There was no trouble with micturition to account for the chills.

DR. LYMAN remarked that it was not uncommon for severe chills to occur from indigestion, and to be relieved by brandy and water.

#### A NEW METHOD FOR CURING RUPTURE.<sup>1</sup>

DR. HEATON'S book will be read with interest by many physicians in this vicinity and elsewhere, for the reason that he has long been known to treat hernia for a radical cure by a method peculiar to himself. It has also been known both here and elsewhere, that some of his cases have terminated in recovery. Sir William Fergusson mentions the fact of having seen a gentleman in London, who had been cured of a reducible crural hernia by the author.<sup>2</sup>

Had it not been for the death of Dr. Heaton's son, himself a physician, in 1868, this volume would probably have been published some years ago. Its appearance at this time, however, is opportune, as many surgeons have come to the conclusion that the hopeful anticipations formerly entertained for Mr. Wood's operation are destined not to be fulfilled.

The work before us is well written, and the author appears to be sincere in his statements. It is based upon experience derived from the treatment of "many hundreds of cases" of hernia, including inguinal, femoral, and umbilical, enterocoeles and epiploceles, reducible and irreducible, and extending over a period of more than thirty years.

A brief report of one hundred and forty cases of permanent cures of rupture may be found in an appendix in which the author makes the following remarkable assertions: "The cases published are known to be thoroughly cured, sufficient time having now elapsed to establish that point beyond question. Though not a tithe of my permanent cures, they are enough for my present purpose" (page 173). His "present purpose" is to establish the feasi-

<sup>1</sup> *The Cure of Rupture, Reducible and Irreducible; also of Varicocele and Hydrocele, by New Methods.* By George Heaton, M. D. Arranged and edited by J. Henry Davenport, A.M., M. D., Harv. Boston: Published by H. O. Houghton & Co. New York: Hurd and Houghton. Cambridge: The Riverside Press. 1877.

<sup>2</sup> *System of Surgery.* Third Edition. London. Pages 738, 739.

bility and safety of the method. Surely any surgeon who can truthfully say that he has permanently cured over a thousand cases of hernia deserves a respectful hearing, and his methods a most thorough trial.

In the opinion of Dr. Heaton, too much inflammation follows the operations of Wood and others, and is the principal cause of their failure. The same objection applies to some of his own earlier operations in which he made use of the essential oils. He soon noticed that those cases in which his operations were followed by the least apparent local effect eventually proved to be the most successful. Acting on this hint he followed up his investigations, and "after eight years of discouraging experiment" finally discovered the process which he has since used with much satisfaction to himself, and which he calls "the method of tendinous irritation."

This method "may be briefly described as consisting of a mild irritation of those portions of fibrous tissue, lying directly in contact with the exterior of the neck of the hernial sac, thickening and consolidating their substance, and effecting a contraction of the openings" (pages 38, 39).

The irritant used in this operation is made by dissolving with the aid of gentle heat fourteen (14) grains of the alcoholic solid extract of white oak bark in half an ounce of Thayer's fluid extract of the same drug.

With an instrument somewhat resembling a hypodermic syringe, about ten minims of this preparation are slowly deposited in such a manner as to moisten all the fibrous tissues in contact with the neck of the sac, including the rings themselves. Very little pain attends or follows the operation. A light truss or firm bandage is immediately applied, and ordered to be worn a longer or shorter time according to the severity of the case.

During the first week after the operation, the patient is usually required to remain in bed. After that time he gradually gets about, and in many cases returns to his business at the end of a fortnight. In the slight cases all mechanical support is removed in six or eight weeks, and the patient is pronounced "cured."

Owing to the anatomical peculiarities of femoral ruptures, they are not as readily cured as the other varieties, but the author claims a sufficient percentage of successful results amply to compensate both patient and surgeon for the operation.

Contrary to one's expectation the above procedure is more successful in umbilical herniæ than in any of the other kinds. The reasons given are "the greater aggregation of fibrous fasciculi which encircle the umbilicus," and the absence of any important organ after birth to hinder a complete closure of the opening. Previous to the injection for the cure of an umbilical hernia the neck of the sac is to be separated from the edges of the aponeurotic opening by pretty forcible taxis, or, this failing, by a subcutaneous dissection.

In actual practice about one third of the cases require a repetition of the operation, and the worst ones may require several before a satisfactory result is obtained.

The above method of treatment is not applicable to irreducible ruptures until the sac has been emptied of its contents. If this object cannot be accomplished by strong and repeated manipulations, Dr. Heaton opens the sac,



separates the adhesions, and replaces the bowel. Should the contents be omental and of large size, he applies a ligature and cuts off the protruding mass. When the patient has recovered from the effects of these procedures, which he is said invariably to do in periods varying from a few days to several months, the operation by injection is resorted to if necessary.

Twenty-nine successful cases are reported to illustrate this mode of treating irreducible hernia. No fatal cases are given for the reason, as the author declares, that he has never met with any.

There is little to be said about the pathology of this method of treatment, as Dr. Heaton has had only one opportunity of making an autopsy on a person who had undergone the operation. His theory of the action of the irritant is as follows: "The operation is subcutaneous, the parts affected are fibrous tissue, and the irritation itself is mild.

"The parts chiefly and immediately affected by the foreign material are, with a single slight exception, fibrous or fibroid tissues, receiving but little or no red blood from the circulation, and supported chiefly by the nutritive juices. The disturbance we excite does not exceed a low grade of irritation, and the moderate amount of lymph thus subcutaneously produced has a strong plastic or organizing tendency. Also, its production is largely interstitial, thickening the fasciæ and tendons, contracting and consolidating, though not absolutely closing up, the entire fabric of the hernial or inguinal canal. Owing to the mildness of the preparation of *quercus alba*, the irritation ceases in its earliest stage, and does not increase to a real inflammation, which if it occurred might readily run on to suppuration. Owing, moreover, to the peculiar slowness with which all fibrous tissues when irritated recover, as well as to the powerful plastic tendency of the lymph thus generated, the thickening, contraction, and consolidation which follow the irritation, persist for a most remarkable length of time, so long that for all practical purposes they are permanent or at any rate sufficiently so to enable nature to reëstablish herself and effect a cure of the hernia" (pages 57, 58).

Such is a brief description of some of the most important parts of this book. We shall make few criticisms either upon the work or the methods of treatment therein described. The true value of the latter is to be determined by careful experience, and not upon theoretical grounds.

The author's idea of a "radical cure," as given on page 51, will hardly satisfy many practical surgeons. "It is my usual custom to dismiss patients with the direction to wear the bandage until it is worn out, and then to discard all mechanical support. On seeing them two or three or six months afterwards, I generally find them still continuing the bandage. I then usually cut it away, and if I find, as I almost invariably do, that the desired changes have taken place, I consider the case successful or, as the phrase is, "radically cured." We should not dare to pronounce a hernia permanently cured as early as six months after an operation.

It is to be regretted that the author has not given us more fully the data upon which his "permanent cures" are based, or, in other words, that he has not stated the length of time which each patient was known to have remained well, also whether he was obliged to wear a truss. On a subject of so much importance more definite and exact information is greatly to be desired.

Dr. Heaton has also been peculiarly fortunate in that he has been able in so many instances to open the sac, break or dissect away adhesions, return intestine, or remove large masses of omentum, without having met with a single fatal result.

Should the operations which are advocated so earnestly by this gentleman prove to be as successful in the practice of other surgeons as he claims they have been in his own, they ought to supersede all others known to the profession at the present time, as they are safer, more easily performed, and more successful in their results. We hope they will be thoroughly tried, and that they may stand the test of experience.

A short chapter is devoted to the consideration of varicocele, and another to that of hydrocele. The only peculiarity in the treatment of the former affection is that the wire ligatures are allowed to remain in the scrotum permanently, the ends having been cut off very short. For the radical cure of hydrocele about two grains of red precipitate are applied to the free surface of the tunica vaginalis by the means of a probe passed through a canula.

In closing we may be allowed to say that Dr. Davenport deserves much credit for the commendable manner in which he has done his part of the work. The general appearance of the book is all one could wish. The paper is good, the type clear, and in every way it is worthy of the well-known Riverside Press.

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#### MEDICAL EDUCATION AT PHILADELPHIA.

THE University of Pennsylvania has at length decided to follow Harvard's example and to adopt the graded course. The details will be found in the letter from our Philadelphia correspondent, which we publish to-day. The younger members of the faculty have long advocated the change, but the older ones have opposed it, and it is evident that this step has not been taken without a very literal counting of the cost. The faculty wish to do right, but to do so as cheaply as possible; thus we find that measures have been taken to avoid a very serious diminution of receipts. The plan is by no means so radically changed as it was at Harvard in 1871, for a year includes only five months, and we see that third year students are to be admitted at half price. We are still ignorant how thorough the examinations are to be at the end of each year, and how strictly proficiency will be demanded before the student is allowed to pass from one class to another. It is on this that it depends whether or not a real advance in medical education will be obtained. We think our Philadelphia friends would have found it better policy, and it certainly would have been more dignified, to have boldly made a radical change and to have trusted to their merits for success. They are, however, entitled to praise for what they have done, and we hope that in a few years the university will stand on a level with Harvard, though the advances constantly made by the latter render this very unlikely, unless the university adopts a more vigorous policy. We hope that in any case, at least one New York school will feel the necessity of following Boston and Philadelphia.

## DR. SIMS ON THE DISCOVERY OF ANÆSTHESIA.

As there can be no doubt that the idea that some agent might for a time abolish sensation is very far from a modern one, Dr. Sims's support of the claims of Horace Wells as a discoverer has always struck us as very extraordinary. It appears from his recent pamphlet that Dr. Sims finds himself just now in a very embarrassing position. This avowed supporter of Wells has recently learned that Dr. Long, of Georgia, had given ether for minor operations before Dr. Wells made his memorable failure at Boston. This, if true, of course puts Wells utterly out of the question, but Dr. Sims is apparently too deeply committed to drop him, and is reduced to the necessity of dividing the honor between Long, Wells, Morton, and Jackson. He proposes that the whole profession should ask Congress to appropriate one hundred thousand dollars to be divided between the families of these four gentlemen. It is not improbable that such a motion will be made at the coming meeting of the American Medical Association. That it would have little effect may be considered certain, for Congress is in anything but a "giving vein" at present; but we should be sorry to see the association commit itself to such a policy.

We have repeatedly stated what we believe to be the facts of the case, and we see nothing in Dr. Sims's pamphlet to modify our opinion. It is briefly this: the idea of the possibility of anæsthesia is probably very ancient; various persons have had more or less definite ideas of applying it, but the honor belongs to him who made it a reality, and that merit is Morton's.

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MEDICAL NOTES.

—The Vienna papers of April 23d contain a telegram to the effect that Professor Billroth has gone to St. Petersburg. The fact is he went unexpectedly to Kischenew in Roumania, on the Russian border, leaving word with no one as to his destination or length of stay. The supposition is that his mission is in the interest of the Russian hospital service, as Kischenew is a base of operations of the Russian army.

—In a recent breach of promise of marriage case on trial in England, it was testified that the defendant, an old man, had suffered from rheumatism, lumbago, and a number of physical ailments, for which he took five pills a day. During the last thirty years he had taken no less than fifty-four thousand seven hundred and fifty pills.

—The total cost of street-cleansing in Paris, says *The Sanitary Record*, is about 5,000,000f., namely, agents, drivers, and overseers, 260,000f.; implements and disinfectants, 250,000f.; sweeping, 2,920,000f.; removal of snow, ice, and filth, 908,000f.; sprinkling, 450,000f.; heating offices and miscellaneous expenses, 80,000f.

—At a recent meeting of the Medico-Chirurgical Society of Edinburgh, the *Edinburgh Medical Journal* mentions that a case of colica pictonum, due to swallowing a lead bullet, was reported. In the discussion which followed, it was remarked by Dr. Gillespie that many surgeons had seen instances where

half-pence and pence were swallowed without harm. He himself had seen two such, and there was no reason why copper should not prove fatal as well as lead. The new way to get lead-poisoning was by drinking soda-water. He had lately read a case in the *Medical Gazette*, where a tailor got it by putting his measure, which was covered with enamel and white lead, into his mouth. Probably the action of no poison had been more investigated than that of lead, and the paper was a valuable addition to its literature.

—The *Horticultural Gazette* of Nicaragua, says *L'Union Médicale*, publishes some statements regarding a plant of the family of the *Phytolaccaceæ* which grows in that country, and possesses electro-magnetic properties. When one touches a twig of the plant the hand receives as vivid a shock as from a Rumkorff battery. The reporter, surprised at the phenomenon, made some experiments with a small compass. Seven or eight paces off the influence of the plant made itself felt. The deviation of the compass-needle was in proportion to the distance; the nearer it was brought the more marked the movements became, and when the instrument was placed in the middle of the bush the movements were changed into a rapid rotation. The subjacent soil did not contain any iron or other magnetic mineral. There was not any doubt that the electric quality resided in the plant itself. The intensity of the phenomenon varied with the time of day. At night it was scarcely perceptible; at two o'clock P.M., it attained its maximum. During a thunder-storm its power was increased, but when it rained the plant faded. The reporter has never seen birds perch nor insects light upon the *Phytolacca electrica*.

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#### LETTER FROM PHILADELPHIA.

MESSRS. EDITORS, — The grist is ground, the schools dismissed, the diplomas delivered. The only remarkable incident in the various commencements this year was the unusually large number of graduates from the Jefferson Medical College, where the winter class numbered over five hundred men, the graduate list amounting to one hundred and ninety-eight.

The whole number of graduates from the various schools has this year been thus divided: —

The Philadelphia Dental College graduated 67; Pennsylvania Dental College, 35; Medical Department of University, 121; Jefferson Medical College, 198; Hahneman College, 50; Women's College, 15; College of Pharmacy, 88.

On days preceding the commencement exercises the alumni associations of the two regular male schools held interesting meetings. At the meeting of the Jefferson alumni Dr. W. B. Atkinson was instituted orator for this year in place of the appointee, Dr. N. R. Smith, of Baltimore, who was detained by illness. Regret was expressed at the failure to obtain for the college from the state legislature the sum of \$100,000.

Graduates of the first (1326) class were introduced to the alumni. A resolution was adopted authorizing the executive committee to notify all graduates of the college who may be in good standing in any state or county asso-

ciation that they are elected members of the alumni association. Prof. S. D. Gross was elected president of the association for the coming twelve months. Professor Gross then said that he had attended his first course of lectures in 1826, and had received his degree in 1828. He had lived many years. His life in the main had been a pleasant one, upon which he could not look back without satisfaction. In the evening Dr. Atkinson delivered an address upon Medical Organizations and their Value.

On the following day the commencement exercises of the graduating class of the school were held in the Academy of Music. There was the usually crowded house, the mounds of flowers, and more practical gifts of books and instruments, the fine music, and the customary bestowment of diplomas. Eight valuable prizes were given to successful competitors. An eloquent and finely delivered valedictory by Prof. J. B. Biddle terminated the pleasant occasion. Among the one hundred and ninety-eight graduates were three from Massachusetts.

On the afternoon of the same day the alumni association of the medical department of the University of Pennsylvania met in the hall of the College of Physicians, Vice-President Dr. John L. Atlee presiding. Dr. Edward Hartsborn, chairman of the executive committee, made allusion to the alumni prizes and their advantages as a stimulus to exertion on part of the students. He expressed the hope that funds necessary to increase the number of the prizes could soon be raised. It had been urged as an objection to these prizes that students would employ in perfecting their essays much valuable time which should be given to the preparation for examination; but the manifest improvement in all branches had shown this to be a false notion. At the conclusion of the business meeting Dr. J. J. Woodward, U. S. A., delivered an address on Dysentery and Bacteria.

On the following Monday the commencement exercises were held at the Academy of Music. The ceremonies were similar to those described in connection with the Jefferson school. The audience filled every nook of the immense house. Diplomas were presented to one hundred and twenty-one graduates; prizes were given to several, others were mentioned as worthy of the notice of distinguished merit, and the valedictory was pronounced by Prof. Joseph Leidy. As usual, flowers in profusion were given to the departing class. This is a pleasant custom. It contributes to the enjoyment both of the giver and receiver, but it strikes one as being an almost thoughtless manner of expressing interest in the graduates. These young men, the majority of them, after securing their diplomas leave for homes which lie from fifty to one thousand miles from Philadelphia. The flowers, beautiful as they are, must either be left behind or fade long before their owners reach home.

It cannot be denied that these floral gifts beautify the stage by converting it into a conservatory; but it would be far more sensible and practical to put their cost into books and instruments which many of the graduates are too poor to buy for themselves. Such gifts would indicate a thoughtful interest in the young doctors, and I am glad to say that a certain proportion of the presents take this form, but this proportion is far too small.

The annual report of the Philadelphia Board of Health shows that the

number of deaths during the year 1876 was 18,892, an increase of 1087 over the returns for 1875. Of these 9848 were males, 9044 females; adults 9556, children, 9336. There were 18,695 births, or 762 more than in 1875. The largest number of deaths in one week was 854, and occurred between July 8th and 15th, during the heated term.

Professor Rand recently resigned the chair of chemistry in the Jefferson Medical College, and Professor Robert E. Rogers, late of the faculty of the Medical School of the University of Pennsylvania has been elected to the vacancy thus created. Professor Rogers has occupied a similar chair in the university school for the past twenty-five years. He is known as an excellent lecturer, and recently has edited the reprint of Lehman's Physiological Chemistry. The removal of Professor Rogers from one school to the other is, if we may judge by opinions freely expressed in medical circles, a cause of congratulation in both institutions. Primarily, because Dr. Rand, with unyielding firmness, clung to the old system of notation, and even went so far as to defend in print his first love, and express his opinions touching the modern unitary system with a vigor which made it clear that he considered it at least superfluous, while Professor Rogers, I am told, will use the unitary system of notation in his lectures at the Jefferson school. This, of course, is a progressive step so far as the latter school is concerned. On the other hand, Professor Rogers was not in entire harmony with all the members of the faculty of the university school. This lack of unity related to the discussions which have been rife of late in regard to a change in the plan of study now pursued at the university. The younger teachers of this school are pushing this matter with all the influence they have. They have the sympathy of some of the trustees, and sooner or later the Harvard plan of study will be adopted in the university. Professor Rogers has systematically opposed any change in the time-honored, but not otherwise honored, hot-house, cramming system of education, and he must find it more agreeable to be one of a faculty which is nearly or wholly a unit in support of the old plan of study. A letter to the *Evening Telegraph* of this city somewhat hotly charges the editor of that journal with injustice because he had intimated, in an editorial suggested by the election of Professor Rogers, that those university professors who opposed reform in their educational system were led to do so by hyperæsthesia of the pocket nerve. The writer also denies that the agitation of the question of reform in medical schools had anything whatsoever to do with the change of chairs on the part of Professor Rogers. In regard to the first assertion, those who stand on the inner side of certain circles say there seems to be no other conceivable reason for this opposition to reform. In regard to the second they are equally skeptical, because of certain events which need no mention. Irrespective of all these questions, however, Professor Rogers has been elected to a chair which is worth considerably more than the chair he has left. If he were influenced by that feature, no reasonable being will disagree with him.

It cannot, however, be denied that Professor Rogers and the clinical professors at the university (in whose veins runs the younger blood of the faculty) wear different colors. The *Telegraph* of this evening replies to the above-mentioned communication, and clears its skirts of the charge of injus-

tice, closing with these telling words: "The plan [of reform] looks eventually to ample endowment of the chairs with such funds as will attract to Philadelphia the first quality of scientific ability. But everything must have a beginning. Opinion must be made, interest in the new plan must be aroused, at least among those who, it is hoped, will give of their wealth to a scheme altogether elevating and noble. The university is doing nothing more at present than seeking to make this sentiment and inducing it to take practical shape. Its classes next winter will be formed on the old plan, and must continue to be until the chairs are endowed. The ground is being broken — that is all. The need is seen — the rest must come. If it does not, the glory of Philadelphia as the centre of medical education must go. No doubt about that. With a diploma issued at Harvard showing on its face that its holder is a thoroughly trained man of science, and with one from Philadelphia put out in the old, familiar way, and meaning just nothing at all compared with that of Harvard, all our hundred years' start cannot save us, and we must go to the rear. Shall we do so?" I give this as a specimen of public sentiment. The schools which refuse to reform their educational plan may, probably will, thrive for a time, but sooner or later reform they must or take second rank, and thus terribly discount the value of their diplomas. Even this may not influence them, for the majority of diplomas go out of the city into districts of country in which the mere possession of a diploma settles all questions, and such districts will always supply an abundance of students for schools whose course is short and easy.

The chair of physiology at the university is also growing cool for lack of an incumbent, in the present instance a want, I believe, not easy to supply. In the Women's College the chairs of anatomy and of theory and practice are looking for occupants. I may also add that Dr. John Neill has resigned his position as surgeon to the University Hospital. Imagine, then, the amount of canvassing now going on. Dr. Adinell Hewson has resigned his post as one of the surgeons to the Pennsylvania Hospital, and Dr. D. Hayes Agnew has been elected in his place.

The corps of lecturers in the summer school of the university has recently been much enlarged. Fourteen special subjects occupy as many lecturers, besides botany and hygiene, which are taught by members of the auxiliary faculty. No change has been made in the summer plan of the Jefferson school. The staff has been appointed to the new Jefferson College Hospital, but no one seems to know when the building will be inaugurated. By some abominable filibustering at Harrisburg, the bill for the promised \$100,000 appropriation to this institution, besides many other necessary appropriations, was strangled. Hence no funds can be procured before next winter. The hospital, however, may be opened in spite of this misfortune. But it cannot be run without money.

A new variety of aphasia recently developed itself at the hands of a medical neighbor of mine. His patient, a quaint old Milesian, when asked what might be his ailment, replied, "Doctor, I can't shpake me wurruds." "Can't speak your words! Why! you are talking now." "But, doctor, I can't shpake me wurruds." Not to continue a useless argument, the doctor said:

"Come, let's see what words you can't speak. For instance — horse. Can you speak that word?" The patient, dropping his voice to a low, confidential tone, gave this most delightful answer: "Ah, doctor, harse is one of the wurruds I can't shpake!" The man really had a certain degree of aphasia, but it evidently did not extend to the word "harse."

The quotations which I made from the *Evening Telegraph*, to the effect that no change in the university plan of study would take place this year, I did not doubt were authentic. It seems they were not; for within forty-eight hours after publication of the quoted statements, the trustees of the university voted to make an entire change in the curriculum of the medical department. The new plan will go into effect next fall, and comprises (a) a three years' course; (b) a graded course of study; (c) yearly examinations; (d) a fee of \$100 for the third year, to which heretofore second year men have been admitted gratuitously; (e) no preliminary examination; (f) the decision that the status of students who are already in the school will not be affected by the change.

This arrangement, as you will perceive, is a modification of the Harvard plan, but it is only an entering wedge. I am assured by one of the most active of the trustees that the intention is eventually to make their medical curriculum even more stringent than the Harvard. To reach this modified result has cost the friends of higher education a hard fight, and but for the recent resignation of Professor Rogers the change could not have been thus early accomplished. The older members of the faculty who objected to the new plan because of its possible effect upon their incomes have been guaranteed a satisfactory yearly amount. This has been assured by means of a very generous guarantee fund, which has been raised within five days among friends of the school, twenty thousand being a direct gift. One of the medical chairs will be endowed before the close of this year. Another will be endowed next year, and the trustees believe that when three or four endowments have been effected there will be no further difficulty as to the remaining chairs. The resolution of the trustees came suddenly upon those outside the immediate atmosphere of the active workers, but this is good, cheering news, and, as you can imagine, the friends of higher education are jubilant.

H. O.

PHILADELPHIA, May, 1877.

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#### LETTER FROM PARIS.

MESSRS. EDITORS, — It may possibly be known to some of your readers that, so long as twenty-five years ago, Dr. Burg, of Paris, called attention to the striking effects which, as he claimed, followed the application to the skin of small disks of metal of various kinds. These experiments have recently been repeated by Professor Charcot, at the Salpêtrière, oddly enough the scene of Dr. Burg's original investigations, and the results appear to have completely verified the latter's strange statements, at least so far as the cure of hemi-anæsthesia is concerned, the only point which has thus far been examined.

The matter has now begun to attract the attention of the journals, and perhaps of yours among the rest. If not, a few words on the subject may be of in-



terest, although it is as yet uncertain whether the discoveries are to be of therapeutic significance, or whether they are destined to be ranked with those of Mesmer and Braid.

Briefly summed up, the principal facts which have been recently verified or discovered are the following:—

The hemi-anæsthesia of hysterical patients, even if absolutely complete and involving the special senses, may be removed or greatly lessened by the application of one or a number of isolated disks of metal to any part of the anæsthetic region for twenty or thirty minutes. It is not indifferent what metal is chosen, but the selection has to be made experimentally. Copper or brass generally work the best, then come steel, gold, and zinc. The fore-arm is the most convenient place for the application of the disks, but even the wearing of a metal thimble has been seen to produce temporarily the effects indicated.

The effects in question are first and most strongly marked in the immediate neighborhood of and especially above the metallic disk.

In proportion as the affected side regains its sensitiveness, the corresponding parts of the opposite side become anæsthetic, at least to some extent.

The condition thus provoked may persist, with gradually diminishing intensity, through one or two days.

With the exception of the last-mentioned change, which was not sought for, these same phenomena were observed also in the case of two patients who were not hysterical, the hemi-anæsthesia seeming to be associated with an actual organic lesion of the brain.

A delicate galvanometer having been connected with two of these bits of metal (whose surfaces are of course not perfectly homogeneous), its needle was found to deviate ten to twenty degrees, and when currents of galvanic electricity of such strength as to cause a similar deviation (as furnished, for example, by one element) were employed in the same manner, the same general results were obtained.

The reasons given for not classing these phenomena among the freaks of hysteria are that they are of too complicated and unusual a nature to have been imagined or feigned at the outset; that they are essentially the same in different individuals, and were obtained also in two cases of hemi-anæsthesia believed to be of organic origin.

It may be mentioned that it is well known that strong currents of electricity will sometimes remove the anæsthesia in both these classes of cases.

It is also noticeable that though usually in these cases of hemi-anæsthesia the wound made by a sharp pin thrust through a fold of skin scarcely yields a drop of blood, yet after the application of the metals the blood flows more readily.

The experiments are shortly to be made the subject of a report to the Société de Biologie. It is, of course, needless to say that all the precautions were adopted which suggested themselves as likely to prevent deception.

Yours truly,

JAMES J. PUTNAM.

March, 1877.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MAY 19, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	480	23.17	27.46
Philadelphia	850,856	352	21.51	22.88
Brooklyn	527,830	214	21.08	24.31
Chicago	420,000	143	17.70	20.41
Boston	363,940	143	20.43	23.39
Providence	103,000	38	19.18	18.34
Worcester	52,977	13	12.76	22.00
Lowell	53,678	20	19.37	22.21
Cambridge	51,572	13	13.11	20.54
Fall River	50,370	12	12.39	22.04
Lawrence	37,626	10	13.82	23.32
Lynn	34,524	10	15.06	21.37
Springfield	32,976	13	20.49	19.69
Salem	26,739	13	25.32	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday evening, June 4th, at eight o'clock, at its rooms, 36 Temple Place. Dr. J. G. Blake will read a paper upon Unusual Cases in Private Practice.

DR. SAMUEL HOWE has been appointed assistant visiting physician to the Boston Lying-in Hospital.

THE AMERICAN NEUROLOGICAL ASSOCIATION will hold its third annual meeting in New York on June 6th, 7th, and 8th.

OMISSION. — In our report from the Boston City Hospital in the last number it should have been mentioned that the cases occurred in the service of Dr. Hall Curtis and were reported by Dr. C. C. Sheldon.

BOOKS AND PAMPHLETS RECEIVED. — How to Use the Ophthalmoscope. By Edgar A. Browne, Surgeon to the Liverpool Eye and Ear Infirmary, etc. Philadelphia: Henry C. Lea. 1877.

Thirty-First Announcement of Starling Medical College. Columbus, Ohio. 1877.

Two Cases of Morphia. On the Nomenclature and Classification of Diseases of the Skin. Both by Duncan Bulkley, M. D. New York: G. P. Putnam's Sons. 1877.

Thirty-Sixth Annual Announcement of the St. Louis Medical College. 1877.

The Germ Theory applied to the Explanation of the Phenomena of Disease. The Specific Fevers. By T. MacLagan, M. D. London: Macmillan & Co. 1876. (From A. Williams & Co.)

Transactions of the Pathological Society of Philadelphia. Vol. VI. Edited by James Tyson, M. D. 1877. (From A. Williams & Co.)

Transactions of the State Medical Society of Arkansas. 1877.

An Introduction to Practical Histology. By George Thin, M. D. London: Baillière, Tindall, & Cox. 1877. (From the Publishers.)

Extracts from Testimony on the State Reform School at Westborough.

General Laws and Resolves passed by the Legislature of Massachusetts during the Session of 1877.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## ADDRESS AT THE OPENING OF THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION,

HELD AT CHICAGO, JUNE, 1877.

BY HENRY I. BOWDITCH, M. D.,  
*President of the Association.*

GENTLEMEN: On looking back upon the addresses of my predecessors in this office, I find that the greater number have been devoted to topics tending to improve the practical working of this association. This seems a most fitting plan for me also to pursue. I ask, therefore, your attention to a few suggestions on The Past, the Present, and the Future of this Association.

### THE PAST.

Previously to the birth of this association in 1847, the medical profession of these States as a united body did not exist. A few state and smaller local societies had been formed in some parts of the country, but the masses of the profession had not only no coherence, but were actually separated; for, owing often to political ideas at that time prevalent, and to the difficulties of communication either in person or by letter between distant points of our large country, we were, to a certain extent, rather alienated than drawn together. At our first meeting, it was a very curious psychological study to mark out the region of the country from which each speaker came, by his idiosyncrasies of manner and of action, which showed as distinctly the section of country in which he lived, as his individual habits and thoughts. Of course, such a body of heterogeneous natures, which had no distinct bond to unite them, was very hard to manage, as our earlier presidents soon found to their bitter cost.

But what is the fact at the present time? I doubt not many of you, who now hear me, have been equally fortunate with myself and can trace most valuable friendships to these annual reunions; friendships, which could have never arisen otherwise, because no such opportunities for meeting would have offered. My first point, then, in reference to the American Medical Association is that, whereas, before its inauguration, the profession was disintegrated, and members of it knew little of any others than those in their immediate home circle, now, while thinking of the profession, our thoughts embrace men from even the

most distant parts of our common country. This principle of union gains with each annual meeting. We are becoming more assimilated. Local idiosyncrasies are now less manifest; the meetings are much more quiet, and rarely otherwise than perfectly harmonious.

If I had no other reason, these facts would induce me heartily to sustain the association, for their effects on the whole country are excellent. We had proof of this when we saw how quickly and easily the Northern and Southern sections of this body coalesced immediately upon the closure of the civil war. The American Medical Association became, indeed, at that time, one of the strongest ties of these States, and for that very fact deserves from all of us unqualified respect.

#### ENTHUSIASM PREVALENT IN THE EARLIER MEETINGS.

Those who can look back upon the earlier meetings will recollect that, notwithstanding the disturbances that occasionally took place, there was a fine enthusiasm connected with them. The *élite* of the profession from all quarters of the Union attended and read papers, or took part in the debates. It will, moreover, be well remembered that wine flowed freely at the public and private gatherings, with at times unhappy results to a few. In spite of the disorder observable during our debates, and the improprieties following the abuse of wine, the clash of ideas during the week of the meeting was generally of a wholesome character. The association was borne onward for many years with the same earnestness which marked its birth, and, while it not only cemented our profession, it became, as I have hinted, by its ramifications everywhere through the land, one of the bulwarks of the state and a help towards civilization on this continent.

#### ITS PRESENT REPUTATION.

But what is its present reputation with the profession? Does that zeal which reigned at our earlier meetings prevail now? If not, what are the reasons for its apparent or actual loss of reputation with many of our best and oldest associates? I think we must admit that our meetings, with perhaps a few exceptions, rarely are carried out with the entire coöperation of the *whole* profession, as they were in the earlier years of our existence. I am sure that the meetings have lost reputation in the Eastern and Middle States. This I know by personal experience with some of our chief associates of Philadelphia, New York, and Boston; I infer that a similar feeling exists elsewhere, because I notice the absence of some of the prominent Western and Southern men. A portion of young physic, aided by some scoffing elders, would brush us away if it could do so, as a hindrance rather than a help to the progress of scientific medicine.

Why is this? I have already alluded to two chief causes of alienation. Men, naturally quiet and hoping to attend sedate scientific dis-

cussions, on important themes, have found themselves, at times among men furiously discussing points of order, or equally vain points on the ethics of professional etiquette. At our social meetings some lost their reason under the fumes of wine.

These facts had a most powerful influence for evil. But other and important causes of lukewarmness, or of opposition, on the part of many have arisen. Among these may be named, —

First. The consciousness, to which the members were very soon, and perhaps most rudely, brought, that their expectations as to what the association was to do for the profession were too high, and the destruction of these hopes seems to have taken away from not a few able men, all hope of future good from the association.

Surely nothing could be more unwise or illogical than this position, against which I would earnestly protest and put the following plea: —

How, I would ask, is it possible for an association which meets only once a year, which migrates from Maine to San Francisco, which annually changes its officers, which allows every one to be a contributor to its transactions, instead of itself seeking the noblest minds of the profession and winning them to labor for it, — how is it possible for such a society to have any real scientific work done at its meetings? It seems to me vain to hope that any such society can, of itself, carry on, to any great extent, fine scientific work. We need frequent, small reunions, or, still better, individual and hard, if need be midnight and solitary work, to enable science to make solid incursions into those unknown regions, where Nature stands always ready to open her beautiful laws to the quiet, patient, truth-loving investigator. I do not mean by these remarks to be understood that I deny to the association all power of *aiding* in scientific progress. Far from it; for I believe that indirectly and by small changes in our mode of proceeding, to which I shall presently allude, we may do much and give an immense impulse to science, while we may be forever unable, at our meetings, to add one iota to the stock of human knowledge.

Second. Another reason why the association has lost reputation, is the fact that its general meetings of the early days, and its sections of late years, have been often used for the presentation of papers or remarks from individuals, smitten with the *cacoethes scribendi aut loquendi*, and we have not always had the ability or the will to check them. Many of their victims have asked themselves the very pertinent question, Does it really pay me to travel perhaps a thousand miles to hear such papers or debates as these? You may be well assured that such persons have not often returned, after having been once or twice so victimized. They do not feel that the number of honorable and able men, who may not say or write a word, but whom they can meet and converse with, or perhaps form the closest friendships with, will amply repay them for many hours of *ennui*, inflicted by others.

Third. Still another reason for dislike to our association may be found in our Transactions. They have been too bulky. We are not led to look into them, with the certainty of adding to our stock of knowledge. Doubtless, many grave and admirable discourses may be found therein, but it seems to some of us that the amount of real knowledge, gained from them, is inversely as the cubes of their bulk.

Papers have been read in the sections, without protest, and some have been actually printed in our Transactions, which had been previously printed elsewhere.

Agassiz once said to me, "Most of the chief works, which have marked eras in the progress of European science, have been contained in pamphlets."

During the Middle Ages a huge folio carried with it immense intellectual power, and honest scholars of those days borrowed a volume on one Christmas Day and returned it the next, devoting a whole year to the study of its voluminous pages. But now, a huge volume repels by its very bulk, and I much fear that our Transactions, heavy as they are physically and often intellectually, and all unindexed as they are, have tended to depress more than to excite the enthusiasm of readers, and that depression has lowered the reputation of the association.

Fourth. Another very serious cause of complaint is that, led by violent partisans, the association has, at times, unwisely passed resolutions, thought to be quite insulting to large communities, or pledging the association to one opinion or another upon very mooted questions, on which the association was imperfectly informed, and by the passage of such votes we were all compromised.

Fifth. Among the objections urged recently, the last I shall name is the following, which seems to be a singular one for an American to offer, namely, that the association is too democratic.

The reason for this opinion is the vote we passed a few years since, taking from the colleges and hospitals their rights of special representation in this body. That vote only brought the rules of our association into proper relations with the fundamental ideas, underlying our nation, instead of any longer allowing them to foster class feeling, which was aroused by our giving to the colleges and hospital staffs an extra number of representatives. But I feel sure that no one intended, by that vote, to show disrespect to the professors or the hospital staffs.

There cannot be a doubt that, if they choose to take an interest in the meetings, these gentlemen would be as often sent representatives to this body, by the societies to which they belong, as they were by our previous rules designated by their respective faculties. I cannot think that this objection can have had much weight even with the few. But, however small or wide may be its influence, the surest way to overcome it is to prove, by our own works, that we are worthy the support of the most learned professors among us.

I regret to feel compelled thus to allude to the short-comings of our association, but I know of no better way to make improvements than by looking fairly at our failures. Moreover, I have the fullest faith that we can easily, if we choose, remove all prominent objections, and, at the same time, put new vigor into the association. This may be done by carrying out some plans already adopted, but which have not, as yet, had time to bring out their best results, and by the adoption of suggestions, which circumstances may seem from time to time to lay before us. I propose to lay before you one or more such much-needed changes.

THE SECTIONS: WHAT THEY DO AND WHAT THEY CANNOT ACCOMPLISH.

The sections, if they would always do their duty, would prevent our transactions from being burdened by papers of small value.

But important as the sections have been, and as they will always be in other respects, I think that hereafter, as heretofore, want of time and often want of moral courage will prevent them from performing their duty as *critics*. They will therefore fail to keep up the highest standard of scientific statement on the part of our writers. No one likes to criticise a communication, even when it is patent to all, except perhaps to the writer, that the time of the meeting has been nearly, if not quite, wasted during the perusal of it, and that a recommendation for its publication would be a gross dereliction of duty on the part of every member of the section. Such publication may, occasionally, be prevented under the leadership of one or more men who, asking for no favor, and looking only to the conscientious performance of duty as critics, appointed in fact by this association partly for that express object, may dare frankly to express their opinions of any and all papers that may be read. But we cannot always have this. How can we hope for it, when we remember the number of papers presented, and the brief period of time we shall always have for careful and discriminating consideration of their contents?

In admitting this failure on the part of the sections, I do not admit that they have failed of doing very great services to this whole body. I cannot sufficiently express my estimate of their value in many other directions. A certain amount of critical acumen, of course, they will always have, but the question recurs, Will they each year and in every section *always* be able, even if willing, to decide upon the publication of communications, which are hastily and perhaps only in part read? My estimate of human nature, and my observation of the workings of the sections forbid me to believe that we can ever hope for this desirable result. To meet this difficulty, I would advise that we adopt the wise regulations established by the Smithsonian Institution, namely:—

First. To publish nothing but that which, after being read at the

sections and approved by them, shall have been also submitted to the critical eye of experts, whose names shall be unknown, and whose decision shall be final, in regard to the publication of any paper in our volume of transactions.

Second. We should declare, as our rule for the guidance of said experts, that no paper should be deemed worthy of publication in our transactions unless, —

(a.) It gives something new to medical science, or

(b.) Unless it present an analysis, or such a new or lucid arrangement, of facts, already wholly or in part known, that the profession will be greatly aided thereby.

I hope these suggestions will be referred to a special committee or to the judicial council for consideration, with directions to report before the close of this meeting.

#### JUDICIAL COUNCIL.

The most important measure ever adopted by the association was the establishment of the judicial council in 1873, of twenty-one members, each member to hold office for three years, and seven annually to retire. Chosen as representatives of the whole profession of the United States, to them are referred “at once, without discussion, all questions of a personal character, including complaints and protests, and all questions on credentials, after the report of the committee of arrangements or other presentation.”

This council has been of incalculable value. If it had been thought of earlier it would have saved us from many of the turbulent scenes of former days, which, as we have seen, tended to alienate some of our ablest associates.

#### A STANDING COMMITTEE ON SCIENTIFIC COMMUNICATIONS PROPOSED.

To this judicial council I would urge you to refer the following proposition, namely : —

The propriety of having, as a standing committee, one on the procuring of scientific papers, for each annual meeting, from the ablest men who can be found in the various sections of the country. Such a committee has been of great value to the meetings of the Massachusetts Medical Society, as I well know from its operations during many years past, and therefore I urge your adoption of a similar plan. This committee would not, of course, prevent the presentation of voluntary papers, but I would establish the rule that the papers and writers, recommended by the committee, should generally have precedence. The committee should be small, say five, each holding office for five years, one leaving annually. They might be originally selected by the judicial council, and, each year, a new one selected, by the same body, to fill the place of the person who retires. Each one in turn should serve as



chairman, in his last year of service. I would have on this committee one or more of the older men of the profession, but the majority I should hope would be earnest, accomplished, scientific, middle-aged or young men.

The committee should hold its sessions, each year, during the week of the annual meeting of this association, and, if possible, should select the best men at one meeting, and engage them to prepare papers for the ensuing one.

If it did its duty thoroughly, it would select the wisest and best representatives of the science and practice of medicine and surgery in America. Communications from men thus chosen would undoubtedly render our reunions much more interesting to all, and would raise the standard of medical learning. Months before each meeting of the association, due notice in the medical journals should be widely given of the names of the writers, and of the nature of the papers to be presented. Thus every member of the association would know of them long before their presentation, and could prepare himself for abler discussion of the topics involved. This information would also induce a fuller gathering, and livelier discussions.

All these papers should be afterwards referred to experts, as stated above. If any author, feeling aggrieved by an adverse decision from the experts, should publish elsewhere his communication, he might, in his preface, point his wit at our expense. It would not injure us, if, in our endeavors to winnow out the chaff, we should sometimes throw away a few perfect grains of wheat.

#### OUR SOCIAL MEETINGS.

Among the most agreeable memories I have of our meeting at Louisville, in 1875, is the fact that all our public entertainments were conducted on temperance principles.

This was peculiarly significant to dwellers outside the limits of Kentucky. To have had such a noble example, set in the land whence comes the famous "Bourbon" whisky, was indeed a triumph for true temperance. Hereafter, we cannot do better than follow the lead of Louisville in two respects, namely: —

First. In its abstinence from all intoxicating drinks, and

Second. In the invitation it extended to woman to meet with us in social intercourse.

But I would go a step farther, and would recommend that the association should itself now take the highest ground against the use of intoxicating drinks at its meetings hereafter.

It seems to me that every one of us, even if he disagree to the proposition of total abstinence, and regards a prohibitory law as simply impossible, would be willing, at these meetings, to forego the use of any stimulant, for the sake of not leading some weaker brethren into mis-

chief, and because such a position, taken by this great association, would have a most important, though indirect, effect on the noble cause of temperance throughout the land. I would submit, therefore, whether we, as a body of physicians, believing in a true temperance, although varying in our views of what that may mean, should not declare that hereafter we will respectfully but decidedly decline any public or private entertainment, for our whole body, where intoxicating drinks are to be offered.

I sincerely hope that you will request the judicial council to consider, at this meeting, this subject, and if it be deemed wise, that a manifesto upon it should be prepared by the council, which shall hereafter be our guide upon this important matter.

There are two other suggestions which I will make in this connection, and which, it seems to me, if carried out would be of benefit to the association: —

First, I wish every honorable, well-educated physician in the United States to feel an interest in, and to be a member of, this association by the very fact of his having become, by proper education and examination, such a physician. In some state medical societies the county societies, by their censors' examinations, have the right to admit members to the local society. That diploma makes the receiver of it a member of the state society. In like manner I wish that every member of a state society should become, what is now called a permanent member of this association, and he should have the same rights that permanent members have now. This alteration of our constitution would immediately place this association in relations, with the young physicians of the country, much more satisfactory than those existing under our present rule.

Second. I wish we could still further vary from our present plan, and make the representation at our annual meetings smaller; for example, if each society could send a representative for every twenty, or perhaps every thirty of its members, when the society is a large one, instead of every ten as now allowed. If we had this smaller representation, the honor of being a delegate would be higher, and doubtless the plan would tend to induce the best men of the profession to be willing to accept the office of delegate, which is certainly not the fact, at present, in many places.

UNION OF THE AMERICAN MEDICAL ASSOCIATION WITH THE CANADA  
MEDICAL ASSOCIATION.

At the meeting in Louisville, in 1875, in accordance with a suggestion from the Canada Medical Association, "that, in consideration of the true interests of medical science, it is desirable that a medical conference should take place between the American Medical Association

and the Canada Medical Association," it was voted by the American Medical Association "that a committee of thirteen be appointed, whose duty it shall be to confer with a like committee of the Canada Medical Association at such time and place, as may be agreed upon by the joint committee of the associations."

That joint committee met in Philadelphia, the first week in September, 1876, at the hall of the Jefferson Medical College, about one third of the committee being present. On motion of Dr. Gross, Dr. Grant, of Canada, was chosen chairman, and Dr. W. B. Atkinson, of Philadelphia, secretary. Some time was spent in informal discussion as to the wishes of the members of the two associations, as to the possible joint meetings of the two at certain places and times, and a desire was expressed by some of the committee for a permanent union of the two bodies. Finally it was unanimously voted that "a union of the two associations into one is desirable, and that the presidents of each be requested to bring the subject before his own association, and present his own views upon the matter, in order that the question may be fully discussed, and action taken thereupon by the members, at their next annual meeting." In accordance with this request, I propose the following as some of the arguments against and in favor of the proposed union:—

First. The already large dimensions of the American Medical Association, and the difficulty of making so unwieldy a body a real working society, seem to contraindicate the proposition of union. If the American Medical Association be already too large, as it certainly is in the estimate of many persons, why make it a quarter or a third more bulky by the addition of new members, and from a different country, having somewhat different tastes and habits?

Second. However desirable it would be to unite with the intelligent men of the Canada Association, it may be asked, by others, whether the fact of two languages being used throughout Canada will not tend to make joint meetings objectionable.

Third. The difficulty of arranging the expenses of the united body, of course, would be somewhat greater than it is at present.

Fourth. Objections might be made to the fact that the places for holding the annual meetings may be, one year so far distant from that of the preceding, that the members of one or the other association would, practically speaking, have, at times, no annual conference.

These are all the objections I have heard urged against the proposed union. Some of them seem to me grave, and as such should be gravely weighed.

In favor of the plan I find the following reasons:—

First. We should associate ourselves with a body of physicians, all of whom have been educated under English influences, and many of

whom have pursued their studies in England, and have received diplomas from the schools of that country. We all know the high standard of qualifications, required by the British schools.

Second. Why may we not look upon such a connection as quite similar to that, which has frequently taken place and which will occur hereafter, when a new State in this Union is formed?

In that case, if a state medical society be organized, it has a right to send delegates to this association. The only difference, in the two cases, would be that Canada embraces a very much larger constituency than any of our new States would have.

Third. I am inclined to look with favor upon the proposed union from the stand-point of civilization itself. There can be no doubt, as already stated, that this American Association has been a great means for promoting good-will between the different sections of the United States. The proposed union with Canada will tend much towards the reuniting of two of the freest nations on the globe, and certainly civilization can get only good from such coöperation. All means that we can bring to unite mankind I hail with delight.

Fourth. I will allude to what would give me and, I doubt not, many more, great pleasure. I wish the united professions to meet in the old cities, of Montreal and Quebec, and pass up and down the noble Saint Lawrence, magnificent as it is in the length, depth, and breadth of its waters, and still more fascinating from its early associations with European civilization. I would like that we should all stand on the scarred battlements of Quebec, and I think perhaps we, of this country, might learn a divine lesson of magnanimity after war, if we could together look at the obelisk, erected by the graceful action of the British government, to the joint memories of Wolfe and Montcalm, two brave soldiers, antagonists in battle, but, in death, joint heirs in the memories of mankind.

These are some of the reasons for and against an organic union of the two associations. It will be seen that none of them militate against occasional joint meetings, at selected sites, convenient to both parties. I am not prepared to advise any course, but suggest that the whole subject be referred to the judicial council, with directions to report during this meeting, upon the feasibility of the union or, instead thereof; of biennial or quinquennial congresses of the two bodies; and, if the council approve of either of these measures, it be further directed to nominate a committee to meet a similar one, to be chosen by the Canadian association. This joint committee should be requested to draft some plan for meetings, either annually, or at longer intervals, said plan to be submitted to the two associations for acceptance, emendation, or rejection, at some subsequent annual meeting of the two bodies.

## THE AMERICAN PHARMACOPŒIA, AND THE RELATIONS OF THIS ASSOCIATION TO IT.

Last year, after a speech from Dr. E. R. Squibb, of Brooklyn, N. Y., certain resolutions were offered by him, embodying the following questions : —

First. Whether the decennial plan of publication of the United States Pharmacopœia be practically sufficient for the present time, and whether any plan better than the present could be devised ?

Second. Whether the association be the proper custodian of the interests involved in the National Pharmacopœia, and proper source of the National Codex, and whom can it invite to coöperate with it in the work ?

Third. If it be the work of this association, in what way can its details be wisely undertaken with any prospect of material improvement upon the present plan ?

Fourth. In order for mature deliberation, the matter be laid over for one year and the president be recommended to consider it in his annual address.

In accordance with this last vote I propose to address you a few words. Previously to 1808, no recognized American Pharmacopœia existed. In that year, the Massachusetts Medical Society published one, grounded on the Edinburgh Pharmacopœia. The Massachusetts publication never attained a national reputation, and was not continued. In 1820, the plan, at present pursued in the publication of the American Pharmacopœia, was adopted. The first work published at Philadelphia did not meet with a hearty recognition by the country, and in 1830, when the second issue was made, it was met by one from New York, and for the time being there were two pharmacopœias, each seeking for a national reputation.

Fortunately for that published at Philadelphia, which was the manuscript offered by Drs. Wood and Bache, those gentlemen published a larger work, grounded upon the Philadelphia Pharmacopœia, and not only explaining that, but giving a great number of articles and preparations, unknown to the Pharmacopœia, though thought valuable by many of the profession.

It is believed that this work, which every physician in the country needs and uses perhaps daily, saved its companion, the Pharmacopœia. The New York Pharmacopœia has never been continued. The American Pharmacopœia has existed to the present time, and professes to be the national standard, everywhere admitted. The method pursued in regard to this publication seems not only eminently fair, but *a priori* one would think that it would be very likely to succeed. It is as follows : Every ten years since 1820, a convention has been held in Washington ; and, in the month of May of the last year of each decade, the

president of the previous convention, or in case of his death, other officers having the same rights, issues a call requesting all the incorporated medical colleges, incorporated colleges of physicians and surgeons, incorporated colleges of pharmacy, throughout the United States to choose delegates, not exceeding three, to attend a general convention to be held in Washington, in May of the following year. This convention has usually decided on all points, connected with the Pharmacopœia, and has published it. The next call will be made in May, 1879, and the convention will be held in May, 1880.

Five conventions have been already held.

Two of them have passed since this association was instituted in 1847. This association has never taken any action relative to them, —

First. Because it has never been invited to do so, and

Second. Because, according to the very terms of the call of the convention, we really have no right to attend; for it will be remembered that delegates from *incorporated* societies alone are invited.

This association has never been incorporated. It will have no right to send delegates to the next convention, even if it wish to do so, except under one or more of these three contingencies: —

First. That we procure an act of incorporation from Congress before May, 1879.

Second. We may choose delegates and at the meeting of the convention in 1880, they may ask to be admitted. I think that body would not refuse to receive delegates we may select.

Third. We may follow a plan suggested by Dr. Squibb, namely, appoint a pharmaceutical council of this association, consisting of five members to be chosen as follows: The president should be chosen by this association. The army and navy of the United States should select two more. The American Pharmaceutical Association, which in this case is considered only a branch of the medical profession, should select the other two.

If this were done, it is surmised by the friends of the measure that the convention would either not be summoned in 1880, or that it would resign its powers to this new council. Whether this association should accept either of these propositions I am not prepared to say, until I have further information. I wish to know the views of the officers of the convention which is to be held in 1880. I do not see how the last president of that body can, conscientiously, refuse to issue his call for that meeting. I think, moreover, that there should be some conference with the publishers of the Dispensatory. Before we have had some such conference with the principals, who have for forty years carried on that work, I do not see how this association can, with much hope of success, take action in the premises. It may be asked why we are called on to interfere at all in the matter of issuing a new pharma-

copœia. What complaints are there to justify our undertaking to do so? I have consulted eminent druggists and have perused the long and able discussions in the American Pharmaceutical Association, and find the following are some of the chief points of complaint against the Pharmacopœia as at present published:—

First. It is not cosmopolitan enough. It fails to give many excellent preparations, for example, that might be taken from other countries.

Second. Another complaint is that the publication of the Pharmacopœia only twice in a generation is too infrequent, and the demand is made that, every year, at least a pamphlet should be issued containing new formulas, from which selections should be subsequently made and embodied in the decennial Pharmacopœia. This is the plan followed by the Pharmacopœia Germanica, the authorized codex of the German Empire.

It is similar to the plan proposed in the American Pharmaceutical Association, but, in this latter case, every six months is the time at which it is suggested new issues might be made. It seems that the last convention voted that this should be done, and it was ordered, and the complaint is made that the publication committee failed to carry out the vote of the convention. Some persons complain that the present weights and measures, used in the Pharmacopœia, cannot be easily adapted to the decimal system, and that a better method would be to use that of the German Pharmacopœia, namely, of parts and fractions of parts.

Third. It is objected to the present arrangements that, although apparently a convention is called and rules and orders adopted, these orders are not attended to, and the result is we have no real national Pharmacopœia and no national codex of authority, — that each druggist makes the officinal preparations according to his own formulas, stronger or weaker than is authorized. I think there is some truth in this assertion, and it is lamentable that such should be the fact.

Finally. It is said that while the Dispensatory and the Pharmacopœia purport to be mutually supporting, and that the former illustrates the latter, such is not really the fact, of late, and the Dispensatory of 1870 fails to meet the edition of the Pharmacopœia of that year (Dr. E. R. Squibb's letter of November 26, 1876). To meet these and perhaps other objections, Dr. Squibb's plan is brought forward.

Another plan is proposed by the Chicago College of Pharmacy, which, by request of the college I lay before you, namely: that the convention which will meet in 1880 should choose two committees, one of physicians, the other of druggists. The physicians should say what remedies should be used, and give the form in which they should be prepared. The duty of the pharmacists should be to make "the formulas and direct the processes for all preparations, named by the committee of physicians." A publishing committee, consisting of a part

of the other two should secure the early publication of the Pharmacopœia, and that committee should have full powers to make any revision required, if either of the other committees failed to do its proper work. The object of these suggestions is obviously to give to physicians the right to say what the remedies shall be, which the pharmacist will prepare. One objection to this plan is this, that most of our modern preparations are made by druggists alone, and subsequently used by physicians. It would not therefore, as I think, be well to try to limit the druggists in the preparation of their remedies under the direction of any single committee of physicians. If we did it, even if we could do so, I fear we should lose many new and valuable preparations now frequently sent forth by druggists, which can never be objected to, provided the physician knows, while prescribing, the quantity and quality of each medicine, given in any particular formula.

But these objections and suggestions refer, of course, merely to the Pharmacopœia. To the Dispensatory, they cannot be applied. That is a private and very remunerative work, most valuable to the profession, more valuable than any Pharmacopœia, unless we very materially modify the present form and character of the latter work. I can readily conceive of the two books being combined, and indeed that would seem to some a very desirable object. But the question is whether that can be done, at present, in this country. The Dispensatory, even if it do not always correspond with the Pharmacopœia, is exceedingly valuable to those who publish it under a copyright. The editors are already preparing to bring it up to the highest standard, under the direction of two of our ablest physicians. That copyright runs, I believe, several years longer. I hardly fancy that, at present, any one could ask the venerable proprietor to forego the advantages, which have accrued and will accrue to him, for many years, from the great sale annually made of that work, and upon which he has expended so much intellectual labor, during so many years, and greatly to the profit of the whole profession.

The question comes up now before us, What, if anything, shall this association do in the premises?

In replying to this I beg leave to lay before this association the protests of the Philadelphia County Medical Society, of the Philadelphia College of Physicians, and of the Philadelphia College of Pharmacy against any action by this body in the premises.

These should be respectfully received, and duly weighed in any decision we may arrive at.

Obviously, it is for the best interests of the association to have an American Pharmacopœia of the highest character. Is the association prepared to publish one of its own? I certainly cannot advise this course. Nor am I prepared, at present, to urge upon you the adoption of either the pharmaceutical council proposed by Dr. Squibb, or the plan



suggested by the Chicago College of Pharmacy, or by any other society or individual. We want more light upon the subject before entering upon so important an undertaking, which, if not carried forward with extraordinary success, would, I fear, prove a most disastrous failure. I doubt if any publication of our own, even if supported by army and navy and colleges of pharmacy, however learned and complete, would be able effectually to cope with the *bonus* of the good name, gathered by the present Pharmacopœia, sustained as it has been by the Dispensatory during the past fifty years. Certainly, we have not seen any such rapid sale of our publications hitherto, that we could come before the community with great hope of success in any new undertaking. Moreover, in such a contest we must remember the powerful private vested rights, which would necessarily be brought to bear on any new and apparently rival publication. But it may be again asked, Shall this association do nothing in the premises? I think it may do much. As the only representative body of the medical profession of this country we are bound to do everything in our power in the premises, and to demand that our National Codex shall be as perfect as it can be made. But do we not all, as I have already intimated, want more information upon this subject before taking definite action?

I would advise that a committee be appointed at this meeting to consider every matter connected with the Pharmacopœia. Said committee should communicate with the officers of the convention, that is to be held in 1880, with the publishers of the Dispensatory and Pharmacopœia, with the American Pharmaceutical Association, and with any others interested in the subject, and report the result of such inquiry to this association, at its next annual meeting, with resolutions for any action on our part, which may be deemed appropriate.

Before closing, allow me to allude, most briefly, to three objects which I trust will be deemed important for the association, either as a body, or by means of its individual members, to act upon:—

First. I refer to the committees appointed by this association to urge upon the different States the importance of the establishment of state boards of health. I am happy to learn that very efficient work is doing for this object, in several States, by these committees. It should be continued, without abatement, until every State has its board of health.

Second. I want to propose to every member of this association, whether present at this meeting or otherwise, the importance of his conversing with, or writing to his representative in Congress in relation to the museum and library, now collecting under the charge of the surgeon-general of the army.

You all know the high honor conferred upon this country by the museum. It should be well sustained and augmented. That cannot be, without constant aid from the national exchequer.

The library is perhaps less known, but it is the largest in the United States. It is most valuable for every practitioner in the United States, for, by the liberality of the officers in charge, every honorable physician has access to it, and can there find ample means for studying, in any department of medical learning. Let your senators and representatives know annually, if need be, that any cutting off of pecuniary supplies from either of these great establishments is just so much of a retrograde course in human progress, for I deem it a self-evident proposition, that, unless the medical profession advances, in a manner commensurate with its high mission to mankind, civilization itself suffers an incalculable loss.

Third. Upon the question of the proper disposal of the interest from the funds, which may be collected to keep alive the memory of our great, first ovariotomist, Caldwell, and which may arise at this session, I have received an excellent but anonymous communication. The writer very justly objects to the narrow ground, on which it was originally proposed that premiums should be given: namely, only to "writers upon the uterus and its appendages." He suggests that they should be given, from time to time, to any persons "who have confessedly promoted the welfare of mankind by original conceptions, essays, or contributions whatever" to medical science.

While I deem this proposition a good and a liberal one, I would ask whether the subject of gynecology, in its broadest sense, would not satisfy the desires of both parties, inasmuch as, under it are included not only uterine, but much of general human pathology.

Gentlemen, I have thus briefly reviewed the past and present condition of this association. I have but little to say of its future. That depends entirely upon the way in which physicians, especially the young scientific physicians of the present hour, do their duty towards it. If our best men will not come up to its meetings, and work for the common good of all; if they stand aloof, uttering vain complaints of the inferiority of our work, or actually scoffing or sneering at us, we shall accomplish less perhaps, hereafter, than we could wish. But if we, who, year after year, attend these gatherings are determined that, so far as in us lies, nothing but what is excellent shall be allowed, and that our publications shall be sifted, by trained experts, of every iota of dross, then we shall be sure of doing a really noble work, and shall be able eventually to claim and to get the respect of the whole profession. I feel assured that all gloomy forebodings are out of place.

The association is gradually and healthfully growing stronger. Each year, it will have new young life instilled into it. Thus it will have combined in it, perpetual youth, a stalwart manhood, and, as I sincerely trust, a genial old age.

## RECENT PROGRESS IN DERMATOLOGY.

BY JAMES C. WHITE, M. D.

*Molluscum Contagiosum.* — Simon<sup>1</sup> made a communication to the Physiological Society of Berlin upon these strange growths, in which he expressed the opinion that they are in no way connected with the cutaneous glands and hair follicles, but that they consist of a hyperplasy of the rete mucosum. This view of their nature, now adopted by several observers (see former reports), confirms, in his opinion, the theory of independent action on the part of the rete in many processes in cutaneous pathology, as originally proclaimed by Auspitz, which deserves more attention than it has yet received. Simon finds that the so-called condyloma subcutaneum possesses the identical structure of molluscum contagiosum, containing the same characteristic bodies, and he would apply to both of them the name introduced by Virchow, — epithelioma molluscum.

*Heat Eruptions.* — Dr. Bronson,<sup>2</sup> of New York, publishes a very interesting and instructive article on certain prevalent skin diseases of the summer of 1876. He describes very graphically the considerable variety of types of eruption, from the trivial and fugitive "heat rash" to the gravest forms of furuncle, which prevailed so commonly in the intense and memorable heat of that season. Always abundant in dispensary practice in our hot months, they attained an unusual development and intensity at that time.

*The Ætiology of Psoriasis.* — Professor Köbner,<sup>3</sup> of Breslau, expresses the opinion that there is a peculiar disposition seated in the cutaneous structures of patients who have psoriasis, which is mostly hereditary, but sometimes acquired, may remain latent for years, and always shows itself in this chronic inflammation of the skin as the result of the most various kinds of local and internal irritation; just as other skins show their respective vulnerabilities under different exciting causes in the form of fluid transudations, as urticaria, eczema, and pemphigus. This view explains, he thinks, the favorite situations of the first outbreaks of psoriasis, the temporary effect of the local destruction of individual efflorescences, and the strong tendency to relapse. Treatment should be directed to the reduction of this vulnerability of the whole skin. He thinks that this peculiarity of the skin in developing new patches of efflorescence upon the seat of a wound may be made use of to distinguish the disease from scaly syphiloderma, as he has never succeeded in producing a new eruption of the latter by artificial impressions, as by scratching, etc.

<sup>1</sup> Vierteljahrsschrift für Dermat. und Syph., iii. Jahrg. 3 Heft.

<sup>2</sup> Archives of Dermatology, January, 1877.

<sup>3</sup> Vierteljahrsschrift für Dermat. und Syph., iii. Jahrg. 4 Heft.

Neumann also reports<sup>1</sup> three cases in which, after eczema, a psoriasis developed itself upon the affected portions of skin.

Wertzdorff,<sup>2</sup> of Berlin, reviews in an article the opinions which have prevailed among the writers of various countries and times concerning the causes of this affection, and concludes that nearly all of them are without foundation. The only factors which he considers to be of positive influence in its production are hereditability, and mechanical, chemical, and other irritating agencies working upon skins thus predisposed.

*Pityriasis Rubra Universalis*. — Dr. Hebra, Jr.,<sup>3</sup> reports three cases of this rare disease. One of them was under observation 1324 days, and died finally of pneumonia. During this period the patient was subjected to thorough and prolonged treatment by various methods, but none of them affected in the least the course or character of the disease. Among them, arsenic was administered to the amount of four hundred grains. The skin in all the cases was found to have completely changed its normal structure, and to have undergone atrophy after a chronic inflammatory cellular infiltration.

*The Treatment of Eczema*. — Taylor,<sup>4</sup> of New York, in an admirable clinical lecture upon the management of this affection, in which the most particular directions for the use of local and internal remedies are given, advises the persistent administration of cod-liver oil in bad cases in children, especially when the eczema is attended with much sero-purulent exudation. He gives with it some preparation of iron, considering the ammonio-citrate by far the best. With regard to arsenic, he thinks that very few cases of infantile eczema need it, and that it will seldom, alone and unaided, cure. He uses it, therefore, only as an adjuvant, and in chronic, non-inflammatory stages of the disease. For cutaneous irritation in general he advises the administration of ten grains of chloral hydrate with twenty or thirty of bromide of potassium, to be repeated if necessary, and locally a mixture of chloral hydrate and camphor rubbed together with a few drops of glycerine, as recommended originally by Dr. Anderson.

*Ætiology of Scabies in Man and other Animals*. — Meguin,<sup>5</sup> *lauréat de l'Institut*, publishes the following conclusions from his observations: —

(1.) The scabietic acari of the genus *choriopes*, which are peculiar to young domestic animals and to some wild species, emigrate with difficulty from the regions they occupy, do not acclimatize themselves upon adults of the same or animals of other species, nor upon man. In

<sup>1</sup> Beitrag zur Ätiologie der Psoriasis. Allg. Wiener med. Zeit., January 2, 1877.

<sup>2</sup> Vierteljahrsschrift für Dermat. und Syph., iii. Jahrg. 3 Heft.

<sup>3</sup> Vierteljahrsschrift für Dermat. und Syph., iii. Jahrg. 4 Heft.

<sup>4</sup> American Clinical Lectures. Edited by Seguin. Vol. ii., No. 11.

<sup>5</sup> Annales de Dermat. et de Syph., tome viii., No. 2, from Archives générales, December, 1876.

other words, chorioptic scabies cannot be transmitted from young animals to adults, or to those of other species, including man.

(2.) Scabietic acari of the genus *psorotes* acclimatize themselves easily and quickly upon animals of the same species, whatever their age, but not upon animals of different species, nor upon man; that is to say, psorotic scabies of animals is not transmissible to other animals than the original hosts nor to man.

(3.) Scabietic acari of the genus *sarcoptes* acclimatize themselves with the greatest ease upon animals of the same species of any age. Some varieties of species of this genus acclimatize themselves with considerable ease upon animals of different kinds, assuming finally the characters of the varieties peculiar to the latter; such is *sarcoptes scabiei*, variety *lupi*, which easily acclimatizes itself upon man and the horse; such is the variety *ovis* of the same species, which acclimatizes itself readily upon the sheep, the moufflon, and other ruminants, and perhaps man; such, finally, is the *sarcoptes notædres* of the rat, which acclimatizes itself upon the cat, the coati, the rabbit, and the horse.

(4.) Finally, there is only one certain way of recognizing upon men or other animals whether the scabies they have is of that kind peculiar to themselves or one transmitted from another species, that is, the exact determination of the specific zoölogical characters of the acari they harbor.

*Treatment of Acne with Sand.* — Ellinger<sup>1</sup> states that he has obtained remarkably good results in simple and rosaceous acne by washing the affected parts with soap and water and allowing them to remain moist for half an hour. Moistened sand is then rubbed in for a short time, according to the tolerance of the skin and the necessity of the case. The sand adhering to the skin should then be brushed off. This process should be repeated daily. The sand should be regular in size and free from lumps. (See notice of Professor Auspitz's use of sand in our next number.)

*Impetigo Contagiosa.* — Geber<sup>2</sup> describes two cases of this affection, in both of which he found unmistakable fungous elements. He expresses the opinion, therefore, that the cases thus designated by Fox and others, and called impetigo parasitaria by Kaposi, are one and the same affection, and are merely tinea tonsurans vesiculosus of unusual form. That ringworm may rarely assume appearances resembling those ascribed to so-called impetigo contagiosa is possible, perhaps; but that all cases of the latter are simply modified forms of tinea tonsurans we do not believe.

*Ecthyma.* — Muselier<sup>3</sup> offers as the result of his extensive study of

<sup>1</sup> Archives of Dermatology, April, 1877, from Wiener med. Woch., No. 45, 1876.

<sup>2</sup> Vierteljahrsschrift für Derm. und Syph., from Wiener med. Presse, Nos. 23, 24. 1876.

<sup>3</sup> Étude sur la Valeur seméiologique de l'Ecthyma. Paris. 1876.

this affection, especially of its relations to syphilis, the following conclusions : —

(1.) Ecthyma is an affection rarely idiopathic, nearly always secondary.

(2.) Acute ecthyma in the majority of cases is the result of local irritations, and is one of the most frequent and important symptoms of parasitic affections.

(3.) Chronic ecthyma is sometimes the result of causes of external nature, but is always connected with causes of a general nature. The former play the part of occasional, the latter of predisposing causes.

(4.) Chronic ecthyma is a frequent complication of all conditions characterized by cachexia, chronic diseases, grave fevers, debility resulting from bad hygienic conditions, etc., etc. It may also show itself as a critical phenomenon, or in the course of certain affections of the nervous systems.

(5.) Ecthyma is one of the gravest cutaneous manifestations of syphilis, its gravity being dependent on the character of the ulceration, and it is found only in persons profoundly impressed by the disease or by serious intercurrent affections. The occurrence of cachectic conditions has a marked influence upon the development and course of syphilitic ecthyma.

(*To be concluded.*)

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## ANNUAL MEETING OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.

MAY 30, 1877. The American Gynæcological Society held its second annual meeting in the hall of the Boston Society for Natural History May 30th, 31st, and June 1st.

The president, DR. FORDYCE BARKER, called the meeting to order.

DR. STORER welcomed the fellows to Boston, and expressed the wish that the present meeting might be as successful as the first had been. The secretary read a number of invitations which had been extended to the fellows of the society during their stay in Boston.

DR. CHADWICK read a paper on the Function of the Third Sphincter Ani.

The second paper was read by DR. JOHN BYRNE, of Brooklyn, on the Excision of the Cervix Uteri, its Indications and Methods. The writer alluded to the three principal methods of treatment now generally practiced, namely, the scissors or knife, the *écraseur*, and the galvano-cautery. The latter was by far the best method of operating, although a dangerous hæmorrhage might ensue if the wire were overheated and the parts in consequence cut too rapidly. In all cases the stump should be carefully examined, and any spot not thoroughly charred should be touched with the wire heated to only a dull red heat. He did not believe that any marked narrowing of the cervix ever fol-

lowed the use of the galvano-cautery. He especially recommended an excision of the cervix in all cases of hypertrophic elongation, or in cancer involving only the cervix.

DR. GOODELL preferred the galvano-cautery in these cases, although he had seen fatal results from its use. In one case a severe attack of peritonitis followed the operation. In two cases a secondary hæmorrhage had proved fatal. He had never seen any occlusion of the uterine canal follow the operation, although he had seen a marked occlusion after the use of nitric acid and even the simple introduction of a sponge-tent. He thought that the use of the cold wire had, however, this advantage, that it better allowed the mucous membrane to be subsequently brought over the amputated surface. He objected to the use of the phrase cancerous cachexia, and did not believe that such a condition was necessarily a contra-indication to the operation. Moreover, the fact that the uterus is fixed in its position does not necessarily prove that the cancerous disease has actually invaded the adjacent tissue, but it may be due to the fact that a sympathetic inflammation has arisen in the adjoining parts. He had operated in one case of cancer of the cervix in which a period of three years has elapsed without any return of the disease.

DR. SCOTT did not think that there was such a frequent necessity for the operation as we were led to believe by the writer of the paper. When necessary, the operation by means of the scissors, a tourniquet being first applied, was far preferable to the use of the galvano-cautery, which was sure to be attended by a marked constriction of the uterine canal. A case of simple, uncomplicated elongation of the cervix uteri was extremely rare. In cases where the operation is performed the result too frequently follows that the uterus is left unsupported, and there is consequently a marked tendency to retro or ante version. Even if the hypertrophy be removed, he believed it would sooner or later return.

DR. BYFORD did not believe that the operation ever was successful, except possibly in cases of epithelioma. It undoubtedly relieved the symptoms for the time being, but the disease was sure to return. He thought that in many cases a satisfactory although of course a temporary result could be obtained by scraping out the diseased tissue.

DR. NOEGGERATH said he had performed this operation forty-one times. In two cases in which he had operated with the scissors he had seen a profuse hæmorrhage. In two cases performed by the galvano-cautery a secondary hæmorrhage had taken place. Two of the operations had been followed by perimetritis. In two cases he had seen a marked constriction follow the operation. He believed that in all cases of areolar hyperplasia the knife or scissors were far preferable to the galvano-cautery, since a greater reaction, which was very desirable in such cases, was apt to follow their use.

DR. DALTON then read a report of the examination of thirty-two sets of ovaries, examined with a view of ascertaining the relations existing between the corpora lutea of menstruation and those of pregnancy. He considered that the corpus luteum had a very close connection with the process of menstruation. He had found that it attained its maximum growth twelve days after the termination of the menstrual period. In those cases of suspended

menstruation there were found in some cases corpora lutea, but they were much smaller, both in size and weight, showing, he thought, that the act of menstruation had a very marked influence on the growth of the corpora. He touched very briefly on the difference found between the corpora lutea of normal menstruation and those of pregnancy, stating that he had not in any way materially changed his views on this point. The paper was illustrated with colored drawings and models, and was of great interest.

The next paper was by DR. LYMAN, on Dilatation of the Cervix Uteri as an Efficient Means of arresting Metrorrhagia.

Dr. Lyman remarked that dilatation for diagnostic purposes was sufficiently common, but reported five cases of different types of metrorrhagia in order to call attention to the use of dilatation not merely as a means of diagnosis but as a direct method of treatment. He thought that the result in those cases justified him in the suggestion that possibly we have been too ready to substitute cause for effect, and that the strangulation at the inner os may have been the primary element in the production of hypertrophy of the mucous membrane of the body, and that the practical point for inquiry is whether the real cause of metrorrhagia in all cases, whether of hypertrophy, hyperplasia, fibroid growths, etc., is not to be found in some peculiar condition of morbid innervation of the cervix, which strangulates the circulation, and the removal of which strangulation by laminaria tents arrests the flow as decisively as the removal of the bandage after venesection.

DR. STORER said he had seen two such cases which had been entirely relieved by the dilatation.

DR. WILSON believed that the arrest of the hæmorrhage was due to a compression of the mucous membrane, although it was possible that the constriction of the internal os may explain the hæmorrhage in part.

The paper was still further discussed by DRs. SMITH, GOODELL, and TRENHOLME.

DR. SKENE then read a paper on The Principles of Gynecological Surgery as Applied in Obstetric Operations. His object was to bring before the society for discussion the advantage of using some of the implements and methods belonging to gynecology in the practice of obstetrics. He considered that with the use of the speculum the operation of craniotomy could be performed in a much more skillful and surgical way, as the operator could be better able to see what he was doing, and would be much less likely to injure the soft parts of the mother, while at the same time the patient would be subjected to much less pain and inconvenience. He now always, in craniotomy, used Sims's speculum, and took small pieces of the cranium away after having first perforated with a Braun's trephine. When it was necessary, even the whole child might be taken away in pieces without any fear of injury to the mother. He also recommended its use in those cases in which a dilatation of the cervical canal is desired, and always applied Barnes's dilators in this way. In cases of prolapse of the cord, and indeed in most cases of obstetric operations, he thought the use of Sims's speculum of great advantage.

The paper was briefly discussed by DRs. NOEGGERATH, LUSK, and REYNOLDS.



MAY 31st. DR. ENGELMANN read a report of Progress on the Microscopical Appearances of the Dysmenorrhœal Membrane.

DR. LUSK read a paper on the Necessity of Caution in the Employment of Chloroform during Labor. He protested strongly against the popular idea that the administration of chloroform in obstetric practice was absolutely free from danger. In all cases in which a profound anæsthesia was produced by the administration of chloroform, the uterine action was weakened, and in some cases entirely suspended. It was extremely dangerous to continue the administration of the chloroform after the termination of the third stage, since in such cases there is great risk of a dangerous hæmorrhage taking place. He believed that sudden death from the action of the chloroform on the heart was as liable to occur in obstetric practice as in cases of surgical operations.

DR. WILSON dissented from the views of the writer as to the danger of using chloroform in obstetric cases.

DR. SMITH thought that chloroform was to be preferred to ether in those cases in which a rapid anæsthesia is desired.

The president, DR. FORDYCE BARKER, then delivered the annual address. After alluding to the work of the society during the past year and congratulating the fellows on the prospects of the future, he paid a touching tribute to the memory of Drs. Simon and Buckingham, who had died since the last meeting. The most striking progress in gynecology during the last fifty years he considered had been in the perfecting of our methods of physical diagnosis and surgical operations. Owing to the brilliancy of surgical gynecology, medical gynecology has naturally been left in the background. Ovariectomy is conservative surgery in the highest sense of the word. One of the objects of the society should be to protect the public from all hasty surgery. A strong probability, based upon scientific knowledge, that some good will follow will alone justify a surgical interference. Ethical discussions may not be in place in the society, but yet it should be one of the objects of the society to uphold a high standard of ethics. Many facts bearing upon the normal disposition of the uterus as regards the adjacent tissues are already well established, but the part played by each adjacent tissue in keeping the organ in its normal relation to other organs, and in replacing it when physiologically or temporarily displaced, is yet to be determined. The fact that since 1845 one hundred and two new pessaries have been invented shows how little the subject of uterine flexions and displacements is understood. How little are the relations between the uterus and other organs of the body understood? It is well known that the extremes of flexion may exist without any serious inconvenience. In cases of extreme flexion conception probably takes place from twenty-one to twenty-seven days after the last menstruation. It seems to be now well established that flexions in virgins cause no symptoms except a slight dysmenorrhœa. In some married women, in whom a flexion exists, all the uterine functions are found to be normal. In married women, however, these flexions may give rise to serious disturbances. All mechanical treatment in these cases is unsafe and useless, unless all other pathological conditions are first relieved. Cases of laceration of the cervix are always attended with more or less sub-

involution, and the treatment which completes the involution will do much towards relieving the eversion. The whole gist of what is known as Battey's operation is whether the symptoms complained of may not be removed by other treatment. It is now known that psychical remedies may cure the symptoms in some cases; may not other remedies be yet discovered which will remove the symptoms in others?

On motion of DR. GOODELL a vote of thanks was passed to the president, and the address was referred to the publishing committee.

The secretary then read a paper by DR. VAN DE WARKER, on *The Intra-Uterine Treatment of Flexions*. The writer most strongly recommended the use of the stem-pessary, and gave a detailed history of the instrument. In all cases it should be so short as not to touch the fundus uteri. The support should be in the vagina and, to a certain degree, self-adjustable to the motions of the body.

DR. CHADWICK showed a new form of pessary, and explained the method of its introduction.

DR. PEASLEE was entirely opposed to the use of stem-pessaries in cases of retroflexion, since the difficulty could be rectified by other methods. In cases, however, of antelexion there was no other way of keeping the uterus in its normal position. There was no danger in the use of the instrument, if properly applied and carefully watched. In all cases the uterus should be allowed a perfect freedom of motion. The instrument used should always be one which can be removed by the patient in case of threatening trouble. He thought that one of the best forms of pessaries in use was that which he had devised, and which was made of tempered whalebone. This will yield in every direction, and readily adapts itself to the desired position.

DR. THOMAS thought that there was always more or less danger in all instruments which were to be left within the uterine canal. He had, in several cases, seen the most serious results follow their introduction. Cases of irreducible antelexion cannot be cured, except by a surgical interference. In cases, however, where it is possible to reduce the antelexion at all, it is usually possible by care to reduce the displacement altogether. He showed the peculiarities of several forms of pessaries which he had devised for different uterine displacements, and explained in detail the methods of their application.

DR. NOEGGERATH believed in the use of stem-pessaries, not so much, however, with a view of curing the dislocation, as of relieving the symptoms. It is not possible to relieve an antelexion by the use of the stem-pessaries. Out of one hundred cases he had seen but three serious accidents follow the use of the stem-pessary. The fact that the patient complains of pain or symptoms of inflammation does not prove that the pessary is the cause of the trouble. The pessary should be introduced only at the patient's house. In cases of dysmenorrhœa the use of the pessary is invaluable. He believed that all cases of antelexion were congenital. The seat of the flexion is where the peritonæum begins to cover the body of the uterus. The pain at the menstrual period does not depend on the narrowing of the cervical canal at the point of flexion. A constriction of the os externum, as well as of the os inter-

num is often accompanied with pain. All operations with the knife which extend to the inner os should be in all cases avoided.

DR. GOODELL thought that there was great danger in the use of intra-uterine pessaries. The pessary should be one half inch shorter than the uterine canal. The instrument should be used at the patient's house. In cases of retroflexion, the best results have followed their use.

DR. SMITH did not believe that anteversion was often *per se* a pathological condition. In retroversion the pessary is of especial value.

DR. ATLEE had recently occupied his time in removing rather than in introducing pessaries. He did not believe that the unpleasant symptoms which were so frequently spoken of could arise from a healthy uterus whatever the flexion or misplacement.

DR. WILSON thought the pessary especially adapted to cases of retroversion. He did not believe at all in the stem-pessary, nor did he believe in a congenital antelexion. Constipation is the most frequent cause of antelexion. He believed that the best treatment for dysmenorrhœa and antelexion consisted in the division of the cervix backwards from the internal to the external os.

DR. BYFORD thought that the pathological condition accompanying a displacement was the primary difficulty, but that the flexion doubtless aggravated the difficulty, and he considered that the plan of internal treatment acted by removing the pathological condition. He had seen the best results follow the use of the slippery-elm bougie. This should be left in position for three to ten hours. By its use no sudden mechanical dilatation is brought about, and an influence on the vascular and nervous system of the uterus is exerted which brings about a most salutary effect.

DR. SKENE said that he was very much puzzled as to which was the best course to pursue, since one of the most learned of the society had been spending over twenty-five years in constructing different forms of pessaries and improving those already made, while another, equally illustrious, had spent his time in throwing aside all the various pessaries which were brought to him by his patients. He thought those cases in which Dr. Peaslee had recommended the use of a stem-pessary, where there was no inflammation, no dysmenorrhœa, and only sterility, were the very cases in which no treatment was needed; he believed in congenital antelexion, and said that the infantile uterus is so weak that when taken out it is always ante or retro flexed. If dysmenorrhœa were not due to a constriction, as Dr. Noeggerath had denied, he could not see what advantage would follow the use of a stem-pessary. He had tried various forms of pessaries, but had always found great difficulty in keeping them in position. After the pessary is removed he thought the flexion would invariably return. A retroflexion can be easily controlled by the use of what is known as an Albert Smith's pessary.

DR. SMITH did not believe that his pessary would keep all forms of retroflexion in place. He thought the pessary was, as a rule, too much bent.

DR. GARRIGUES, who had just returned from Europe, said that in Denmark pessaries were used but very little. Martin, of Berlin, had never observed bad effects to follow the use of intra-uterine pessaries. Oldhausen, of Halle, used them very often, but had seen very serious effects resulting. Meadows, in

London, used a glass intra-uterine pessary but had seen cellulitis follow its use. At a meeting of the London Obstetrical Society the flexible intra-uterine pessary shown by Dr. Squire had met with marked approval, since it readily adjusted itself to all the movements of the uterus.

DR. PEASLEE thought that the utero-sacral ligaments had nothing to do with retroflexion, as they did not influence the body of the uterus and could affect a case of retroversion only. In order to be of any service a Smith's pessary must be introduced above the angle of flexion.

DR. J. B. S. JACKSON said he had never seen a case of congenital flexion. In infants the uterus is mainly composed of the cervix, the fundus being comparatively undeveloped, and there he did not believe a congenital flexion could exist. Moreover, the arbor vitæ extended nearly to the fundus uteri itself.

DR. WILSON confirmed the statements of Dr. Jackson, and said that although he had examined a large number of cases, he had never seen a case of congenital flexion.

JUNE 1st. The annual meeting was held at nine o'clock. The following fellows were elected officers for the ensuing year: Dr. Peaslee was elected president, Dr. Chadwick secretary, and Dr. Mundé treasurer.

DR. GOODELL reported a case of vaginal ovariectomy. He strongly advised the removal of ovarian tumors, while yet very small, per vaginam.

DR. KIMBALL dwelt especially on the importance of the establishment of free drainage. He thought that there was danger of an intestinal hernia in operations through the vagina.

DR. NOEGGERATH had frequently operated by making an incision through the vaginal walls and attaching the walls of the tumor to the lips of the incision, and thus allowing the tumor to be emptied through the vagina.

DR. CHADWICK thought that there was necessarily great difficulty in making out a diagnosis of so small a tumor through the vagina. There was also great danger of having an uncontrollable hæmorrhage when the operation was performed through the vaginal wall.

DR. LUSK gave the details of a case in which death followed the aspiration of an ovarian tumor.

In closing the debate, DR. GOODELL said that the danger of intestinal hernia was largely imaginary. He believed that a microscopical examination of the fluid would greatly aid in making out the diagnosis.

DR. PEASLEE said that Dr. Thomas was the first to plan and execute the operation of vaginal ovariectomy.

DR. BATTEY then discussed at length the question as to whether there was a proper field for the operation known as Battey's operation. He gave the details of two additional cases in which he had removed the ovaries successfully, and challenged any one to produce a single case in which the symptoms for which the performance of the operation was recommended continued after the removal of both ovaries. He summed up his paper with the following propositions:—

- (1.) In those cases of absence of the uterus in which life is endangered, or

the health destroyed by reason of the deficiency, the removal of the ovaries is at once the hopeful and the only means of permanent relief.

(2.) In cases where the uterine cavity or vaginal canal has become obliterated and cannot be restored by surgery, if grave symptoms be present, the removal of the ovaries becomes a last and only resort, and may be hopefully invoked in the case.

(3.) In cases of insanity or confirmed epilepsy, dependent upon uterine and ovarian disease, the operation is justifiable as a last resort and when other means of cure have failed.

(4.) In cases of long-protracted physical and mental suffering, dependent upon monthly nervous and vascular perturbations, which have resisted persistently all other means of cure, the question of a resort to the operation is to be committed to the prudent judgment of the conscientious practitioner in the particular case.

DR. TRENHOLME desired to add to these propositions a fifth, namely, that the operation was called for in cases where a severe and exhausting hæmorrhage occurred with the monthly flow, in support of which he cited two cases in which the operation had been successful.

DR. PEASLEE thought that while the operation was profitable in cases where the menstrual molimen occurred with great suffering, and the mental powers begin to flag, yet it was not justifiable in many of the cases in which Dr. Battey considered it warranted. In women near the menopause, in cases of simple ovarian neuralgia, in cases of long standing, in all cases accompanied by a preceding inflammatory history, in all cases where pain is the chief symptom, he considered the operation unjustifiable.

DR. PARVIN did not think that the results obtained justified the operation, nor did he believe that the operation was possible in all cases for which Dr. Battey considered it indicated.

DR. GOODELL thought that possibly in cases of fibroid tumors of the uterus accompanied with great pain at the menstrual period, and in cases of a prolapsed ovary with acute pain, the operation might afford the desired relief.

DR. SKENE said that since even experts were unable in all cases to assign the cause for an existing epilepsy or insanity, the operation was unjustifiable in these cases. Frequently fibroid uterine tumors and cases of prolapsed ovaries get well of themselves; therefore he did not believe such cases were suitable ones for the performance of the operation.

DR. NOEGGERATH cited two cases in which Professor Hegar, of Freiburg, had successfully performed the operation for the relief of an intra-mural sub-peritoneal fibroid, accompanied by profuse hæmorrhage. The danger of a subsequent peritonitis was lessened the further the incision is made from the umbilicus; hence it is better to operate as near the pubic arch as is possible.

DR. BATTEY closed the discussion.

DR. WILSON strongly advocated, in a paper, the use of a diluted preparation of the subsulphate of iron and glycerine as an antiseptic in the surgery of the pelvis. In cases of operations about the cervix uteri, in intra-uterine fibroids, hæmorrhoids, fistula in ano, or fungous vegetation, this use of iron as an antiseptic is followed by the best results.

DR. PARVIN reported a case in which tetanus had followed the removal of an ovarian tumor the fifth day after the operation.

DR. KIMBALL related a case in which the same fatal results had happened the twelfth day after a similar operation.

DR. CHADWICK gave the details of a case in which tetanus followed, on the seventh day, the removal of the uterus for a large fibroid.

DR. BATTERY alluded to a case in which a fatal tetanus had followed an abortion at the third month.

DR. ATLEE read the account of several cases of uterine sarcoma.

DR. ENGELMANN questioned whether these were not cases of carcinoma, and not sarcoma, and in this opinion he was confirmed by Dr. Peaslee.

DR. LYMAN offered a series of resolutions on the death of Dr. Buckingham.

DR. BARKER then delivered a farewell address, and presented to the fellows the new president, Dr. Peaslee, who made a short address on assuming the office.

On motion of Dr. Smith a vote of thanks to Dr. Barker, the retiring president, was unanimously adopted, and at five o'clock the society adjourned to meet in Philadelphia the second week in September of 1878.

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### DOBELL ON COUGHS, CONSUMPTION, AND DIET.<sup>1</sup>

THIS little volume contains in small compass the substance of Dr. Dobell's lectures on the various pulmonary affections and their treatment, and finally some chapters on Diet in Disease. The first part of the book is devoted to the diagnosis of lung diseases, and the great difficulties which the practitioner may meet with in forming a positive opinion with regard to the presence or absence of early phthisis, are forcibly laid down. The author says: "In examining such cases in private practice, impressed with their deep social import, foreseeing the shadow that will be cast over the life of the patient, the gloom of apprehensive anxiety over that of his friends, if the judgment is adverse, and, on the other hand, the bright hopes that will be reinstated if it is favorable, the physician's heart may well sink despondently within him, when he reviews the evidence from which that signal judgment must be formed. . . . This absence of reliable signs of the earliest stage of tubercular deposit cannot be too forcibly impressed upon the young practitioner, who, with creditable zeal, is too apt to think, and naturally prone to hope that by sufficient diligence, experience, and care, he may insure that no tubercle shall escape his searching examination. In this belief he will be often led to fancy that he has detected the presence of tubercle where it does not exist, and to assume its absence while it really lies concealed. This is the great disappointment which every man has to encounter who studies and practices physical diagnosis. . . . If physical diagnosis could detect consumption as soon as the first few spots

<sup>1</sup> *On Coughs, Consumption, and Diet in Disease.* By HORACE DOBELL, M. D., F. R. M. C. S., etc. Consulting Physician to the Royal Hospital for Diseases of the Chest. London, etc. Philadelphia: D. G. Brinton. 1877.

of tuberculous matter were deposited in the lung, with the same certainty that it detects pneumonia or a cavity, we might well be content to sacrifice for this all that it could do besides. But that it cannot in its present state accomplish this, and that there is no good reason to suppose that it ever will accomplish it, need surprise no one who will think calmly on the subject."

Then follows a careful estimate of the value of the different modifications of the respiratory sounds, and of the import of symptoms, especially of hæmoptysis. From the strict examinations of one hundred cases of hæmoptysis in *males*, the author concludes that hæmorrhage is, in a large number of cases, a symptom of disease of constitutional origin; in many other cases the result of congestion in the course of diseases of local origin, and in a certain proportion of cases the result of accident, from the temporary over-distention of blood-vessels.

It is said that "as a *cause* of lung disease and constitutional decline, hæmoptysis is considered to be one item, and that a very occasional one, in a large and important group, embracing *all foreign substances which find their way into the perivascular and perialveolar tissue* of the lungs, and by their irritation there, set up lymphatic (adenoid) and connective tissue cell proliferation and its consequences. . . . The disintegrated albuminoid tissue is the irritant which sets up that hyperplasia of adenoid tissue and its results so well described by Portal, Virchow, Sanderson, and Rindfleisch." Whether the disintegrated albuminoid tissue or the resulting diseased adenoid tissue shall be called "tubercle," is regarded as of little moment, provided the distinction in the order of events is borne in mind. Indeed, it appears questionable how far the advances during recent years in the knowledge of the pathological anatomy of the lungs, with the more accurate nomenclature of the various conditions found after death, can yet be utilized by the every-day practitioner, or even by the clinical teacher.

The different forms of winter cough are considered at length, also post-nasal catarrh; and special attention is called to ear-cough, which is excited in certain individuals by irritation of the external auditory meatus. This sympathetic phenomenon is attributed to a hyperæsthetic condition of the auriculo-temporal branch of the inferior maxillary division of the fifth nerve which is in close proximity to the vagus in the floor of the fourth ventricle, whence the reflected sensation is transmitted to the larynx. In most cases this susceptibility is probably a congenital peculiarity.

With regard to treatment the author premises that "the treatment of diathesis is the secret of therapeutic success." Artificial respiration is recommended in some extreme cases as a means of prolonging life, and in certain instances of disease confined to a small area of one or both lungs, Dr. Dobell has found benefit from localized rest acquired by means of lung splints or bandages. The respiratory brace described by Dr. French in a recent number of the *JOURNAL* appears, however, to promise greater relief in exhausting lung affections than any other device of which we know.

The usual therapeutic resources are detailed, and a chapter is devoted to pancreatic emulsion, which Dr. Dobell first brought to the attention of the profession, and which is now recognized as a valuable substitute for cod-liver oil. The only objection is its cost.

The book closes with some practical chapters on diet in consumption, diabetes, and other wasting diseases. The volume is well printed and in every respect readable.

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### DUHRING'S ATLAS OF SKIN DISEASES.<sup>1</sup>

THE second part of Dr. Duhring's Atlas appears after a longer interval than was foreseen by the publishers, owing to the unlooked-for difficulties attending the reproduction of the portraits. This delay has been, however, in the interest of its patrons, for the artist's work is a decided improvement in all points upon that of the first part. The picture of *acne rosacea* presents with great fidelity all the multiple appearances of this complex disorder, and with its brilliant tints offers a striking contrast to the monochromatic representation of *ichthyosis* which follows; a most difficult subject well executed. *Tinea versicolor*, too, is an affliction by no means easily illustrated upon a flat surface, but the artist has succeeded in giving the peculiar tint and outlines of the patches of fungous growth in a very characteristic manner. The last plate, a portrait of *sycoosis non-parasitica*, is wonderfully well done, and should fix unmistakably in the observer's mind the essential features of a disease often difficult to distinguish from other affections of the bearded portion of the face.

The author's text, which accompanies the plates, is of the same character as in the preceding part: a brief clinical history of the case, a clear and short description of the prominent features of the disease, with practical directions as to treatment. The Atlas furnishes admirable means of illustrating his recent work on general dermatology, but by itself will constitute quite a complete treatise on skin diseases. It deserves the most liberal patronage of our profession.

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### DR. BOWDITCH'S ADDRESS.

THE address which we publish to-day is, we think, very interesting reading as the expression of the views of a devoted friend of the association; but as all who know Dr. Bowditch were prepared to expect, this is no speech of empty compliment; he sees the defects of the association, and he mentions them plainly and fairly. Nothing is glossed over, as it evidently was Dr. Bowditch's intention, when he undertook the work, to go to the root of the matter. The reasons which Dr. Bowditch gives near the beginning of the address for the association's loss of prestige might be still further condensed. They are, practically, that the best men do not go, and that the work is of a low grade. The establishment of a judicial council has done a great deal to harmonize and elevate the tone of the association, so that violent discussions of points of order and personal attacks are now done away with. The main criticism, therefore, is as above stated, and it may be still further shortened into the plain statement that in the minds of many the association "does not

<sup>1</sup> *Atlas of Skin Diseases.* By LOUIS A. DUHRING, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia, etc. Part II. Philadelphia: J. B. Lippincott & Co.



amount to much." That this has been true is undoubted, but we are glad to believe that a change is in progress which will put the association, if it has not already, above this criticism. Dr. Bowditch's suggestions for reform are excellent. In one point we would go even further than he does. Societies are now entitled to one delegate for every ten members. Dr. Bowditch proposes that they should be to one for every twenty or thirty; we would have it not over one for fifty. It is worth while to consider whether it might not also be well to add a regulation as to age, permitting no one under forty to be a delegate; in this way the office would be considered an honor to look forward to instead of a trifle to be had for the asking.

The proposal to forbid the use of any intoxicating drink at all social gatherings in which the members of the association take part somewhat surprises us, for we had looked on Dr. Bowditch as the apostle of beer and light wine, of temperance, in a word, as opposed to prohibition. It seems to us that the best example the association can set is that of moderation in conviviality, and that if it cannot partake of wine without such a display as was witnessed in Boston Harbor in 1865 it is a conclusive proof that the association is not formed of the proper material.

The two most important questions of policy which come up for consideration are the proposed union of the association with that of Canada and the assuming the publication of the *Pharmacopœia*. Dr. Bowditch, without absolutely committing himself, leaves us to infer that he is favorable to the former and averse to the latter proposition. There is, no doubt, something to be said for the union of our association with that of Canada, but the countries are different in so many respects that we fear the objections are insuperable. Indeed, we cannot see how a union can be formed, unless it is definitely stated that it is solely for scientific purposes, for it is not likely that the profession of either country would submit to dictation concerning ethics, education, etc., from a body composed partly of strangers. We think Dr. Bowditch's proposition to defer all action on the *Pharmacopœia* till the matter has been further considered a very wise one, and we have no doubt it will be carried, unless, indeed, the whole matter is laid on the table.

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#### MEDICAL NOTES.

—The fifth session of the International Medical Congress will take place in the coming autumn, from the 9th to the 15th of September, 1877, at Geneva. The committee of organization is composed as follows: president, Professor C. Vogt; vice-president, Dr. H. Cl. Lombard; general secretary, Dr. Prévost; adjunct secretaries, Dr. d'Espine and Dr. Reverdin; members, Drs. Dunant, Figuière, Juillard, Odier, and Revilliod. The proceedings will be carried on in French, but members will be allowed to speak in other languages. The report of the proceedings, conclusions, etc., will be published in French and in German. The work of the congress will be divided into six sections, of which the programme will be as follows: Section I. Medicine. (1.) Ulcerations of the Stomach, Professor Lebert. (2.) Parasitic Affections of the Skin, Professor Hardy (of Paris). (3.) *Ætiology* of Typhoid Fever,

Dr. Bouchard (of Paris). (4.) Treatment of Pyrexia by Baths, Dr. de Cévenville (of Lausanne). (5.) Ingrafted Tissues, Professor Zahn (of Geneva). (6.) Tracheotomy in Croup, Professor Revilliod (of Geneva). (7.) Universal Pharmacopœia, Professor Gille (of Brussels). Section II. Surgery. (1.) The Hæmostatic Method of Esmarch, Professor Esmarch (of Kiel). (2.) Mutual Influence of Pregnancy and Traumatism, Professor Verneuil (of Paris). (3.) Treatment of Ozæna, Dr. Rouge (of Lausanne). (4.) Final results of Resections of Joints, Dr. Ollier (of Lyons). (5.) Galvano-Cauterization, Dr. Jaillard (of Geneva). (6.) Means of Transport for Wounded in War. (7.) Fistulæ of the Penis, Professor Reverdin (of Geneva). Section III. Midwifery, Gynæcology. (1.) Placental Souffle, Dr. Rapin (of Lausanne). (2.) Artificial Feeding of Infants, Professor Zweifel (of Erlangen). (3.) Anæsthesia during Labor, Dr. Piachaud (of Geneva). (4.) The growth of Infants, and its Variations, Dr. Odier (of Geneva). (5.) Pseudo-Membranous Dysmenorrhœa, Dr. Gautier (of Geneva). Section IV. State Medicine. (1.) Influence of Alcoholism upon Mental Diseases, Dr. Magnan (of Paris). (2.) Adulteration of Alcoholic Beverages, Dr. Guillaume (of Neuchâtel). (3.) Medical Geography, Dr. Lombard (of Geneva). (4.) Influence of Immigration upon Urban Populations, Professor Dunant (of Geneva). Section V. Biology. (1.) The Electrical Apparatus of the Torpedo, Professor Marey (of Paris). (2.) Cerebral Localizations, Dr. Broadbent (of London). (3.) Physiology of Sleep, Professor Preyer (of Jena). (4.) Entozoa of Man, Professor Vogt (of Geneva). (5.) Functions of the Spleen, Professor Schiff (of Geneva). (6.) Histology and Physiology of the Ovum, Dr. Fol (of Geneva). (7.) Physiological Antagonism of Drugs, Professor Prévost (of Geneva). Section VI. Ophthalmology, etc. (1.) Enucleation of the Eyeball in Sympathetic Ophthalmia, Dr. Warlomont (of Brussels). (2.) Causes and Prevention of Myopia, Dr. Haltenhoff (of Geneva). (3.) Examination of the Eyesight, Dr. Fol (of Geneva). (4.) Tenotomy of the Tensor Tympani, Dr. Colladon (of Geneva).

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING MAY 26, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	488	23.56	27.46
Philadelphia	850,856	335	20.47	22.88
Brooklyn	527,830	178	17.54	24.31
Chicago	420,000	126	15.60	20.41
Boston	363,940	137	19.58	23.39
Providence	103,000	34	17.16	18.34
Worcester	52,977	14	13.74	22.00
Lowell	53,678	10	9.69	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,370	8	8.26	22.04
Lawrence	37,626	8	11.06	23.32
Lynn	34,524	12	18.07	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	10	19.45	23.57

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A REVIEW OF MEDICINE: ITS WORK AND ITS WORTH.<sup>1</sup>

BY J. R. BRONSON, M. D., ATTLEBORO.

MR. PRESIDENT AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY: As American citizens who have survived the first century of national life and participated in its review, to regret its failures and to recognize its successes, determined to avoid a repetition of the former and to crown the latter with still greater achievements, is it not meet, as students and votaries in the republic of letters and the sciences, that we should devote this hour to a review of medicine, its work and its worth, and consider also our relation to questions external, yet of vital concern to medicine and to the American public as well?<sup>2</sup>

American colonial medicine had its birth at a period when European medicine was being agitated by rival pathologists, who had produced temporary professional anarchy throughout Western Europe. Harvey's discovery of the circulation was unknown, and the profession was at sea, without compass, rudder, or ballast, save those which Hippocrates and Galen furnished nearly two thousand years before. Laboring under these embarrassments, in a foreign land and an inhospitable climate, surrounded by a native savage foe, isolated from all the world except at long and uncertain intervals, we wonder that it survived the shock at all; but the law of necessity asserted itself. The clergy and the civil magistrate came to the rescue, and essentially repeated the history of transatlantic medicine in its infancy, though upon a plane of intelligence far in advance of the medicine of antiquity. For nearly one hundred and fifty years, till about the last quarter of the last century, our colonial medicine presents but little of interest to the medical student. It was in full sympathy with the low colonial condition of its time, and as that rallied by associate force, by wealth of product, by increase of domain, by culture, by independence of will, medicine rallied to new purpose, and though having lost more than a century of time by isolation and other depressing influences, migration to and fro, and a war upon our northern frontier, gave medical and surgical accession to the

<sup>1</sup> An address delivered before the Massachusetts Medical Society, June 13, 1877.

<sup>2</sup> Here follows a sketch of the progress of medicine from antiquity to modern times, which we are obliged to omit for want of room. — EDS.

colonies, which resulted in associate efforts to establish American medicine upon a plane more nearly in accord with European medicine. In 1754, Dr. William Hunter, of Scotland, delivered the first course of lectures in this country on anatomy and surgery, accompanied by dissections, at Newport, R. I. In 1762, Dr. William Shippen, of Philadelphia, delivered a similar course in that city, which culminated in founding the first medical school in this country, now the University of Pennsylvania. In 1768, the first medical college of New York was established, with a full corps of professors, all of whom were educated in Europe. This constituted the entire body of public medical instructors prior to the Revolution. During the short intervening period they did good work in the profession, but gave way to the excitement incident to that event, and freely threw themselves upon their country's altar in its defense. Our profession figured honorably and conspicuously on the field of battle, and was ably represented in the councils of the nation at her birth. The Declaration of Independence inspired all along the avenues of thought a resolution to establish an independent literature as well as government, with results, professional and otherwise, eclipsing those of any nation within the century. Immediately succeeding our independence, the old medical schools were reorganized and new ones established. The medical department of Harvard was established in 1782, and of Dartmouth in 1794, fully organized for professional work, with accomplishments of incalculable value to American medicine. During the first half of the present century medical schools multiplied with great rapidity, far too rapidly for the best interests of the profession. Dependent as they were upon students' fees for support, a rivalry for numbers was created, which resulted in lowering the standard of admission to an extent that sensibly affected the intellectual status of American medicine. Nevertheless, she has steadily advanced along the century, and to-day is recognized the peer of Europe in her general anatomy, surgery, chemistry, and materia medica, and as advancing rapidly upon her in her specialties, which are of comparatively recent date upon our shores. These have been watched, and with many regarded with disfavor, as invading the precincts and disparaging the skill of general medicine in the public estimation. I can conceive of a subdivision sufficiently minute to justify this view.

Dr. Barnes, in the London *Lancet*, illustrates it by saying: "I have been recently honored by a visit from a lady of typical modern intelligence, who consulted me about a fibroid tumor of the uterus, and lest I should stray beyond my business, she was careful to tell me that Dr. Brown-Séquard had charge of her nervous system, that Dr. Williams attended to her lungs, that her abdominal organs were entrusted to Sir William Gull, that Mr. Spencer Wells looked after her rectum, and that Dr. Walsh had her heart. If some adventurous doctor should

determine to start some new specialty, and open an institution for diseases of the umbilicus, the only region which, as my colleague, Mr. Simon, says, is unappropriated, I think I can promise him more than one patient." But bear in mind, gentlemen, this is British, not American medicine, of which Dr. Barnes is speaking. Our medical educators, who reflect the true intent of American medicine, demand a thorough theoretical knowledge of general medicine as an indispensable prerequisite to the adoption of any specialty. They recognize the law that the head, the heart, the lungs, and the digestive organs are the great life motors, and have established relations with every fibre and tissue of the human organism, and in the study of disease must be recognized as the great factors in the economy of life, bearing vital relations to disease, wherever located; hence a knowledge of general medicine is necessary to a knowledge of the reciprocal relations of these organs in their diseased manifestations.

Moreover, the rapid advancement of medicine in its literature and practical achievements, during the last quarter of a century, is largely indebted to the scientific specialists, who are ornaments in general medicine as well.

I have but to indicate the names of Bowditch, and Kimball, and Williams, and White, and Knight, and Blake, of our own society, in confirmation of my position; and till subdivision exceeds its present limits in this country, general medicine should welcome the specialist as indispensable to its own best interests.

Medical advancement in this country is due also more largely to the peculiarity of the American mind, to its restlessness, its aggressive character, its persistent determination to reach the ideal, regardless of the obstacles to be overcome, than to the didactics of our schools; for the fact is patent to all before me that our system of public instruction has been unchanged till within a very recent period. The average school has repeated the blunders of its course of instruction for seventy years, though it has advanced with the profession in the recognition and proclamation of scientific results accomplished.

The medical student, fresh from the farm, the workshop, and the common school, matriculated upon the same basis as the bachelor or master of arts, and together for six hours a day, for four months, or the term, listened to scientific disquisitions upon theory and practice, surgery, obstetrics and therapeutics, before anatomy, physiology, pathology, materia medica, or chemistry had revealed their first ray of light to their untutored, uncultured minds, and nought but the genius of an American mind could have evolved and classified from this crammed admixture of scientific lore the fundamental elements of a medical education.

These errors of low standard of admission and order of instruction

have been admitted and deplored for many years, till at last our own Harvard University has broken the fetters which years of custom had welded, and is the first to declare a new departure in her demands for a higher intellectual basis of admission, and a more rational, philosophical system of instruction. As a result she is universally acknowledged to stand without a peer in this country, both in her curriculum and system of instruction; and though radical the change, it is but the prelude to an advance still to be made, which will place her alongside of the leading universities of Europe. The medical profession of this commonwealth must rally to her encouragement, and support in her every endeavor to elevate and advance her standard of matriculation; for view it as we will, our schools must type the profession where they exist. The science of medicine embraces so wide a field of research that the most thoroughly trained and disciplined mind enters that of practice to be often embarrassed by anomalies which have not their counterpart in number or character in any other realm of observation. This fact alone furnishes an unanswerable argument for insisting that our graduates shall be more thoroughly qualified to solve them philosophically. General principles, and not fixed laws, must govern the practitioner of rational medicine, and he who is unable to comprehend a general principle (for want of proper discipline or otherwise), will fail in the application of suitable means to desired ends. While we concede that medicine does not furnish an exact science, nor can it till the laws of pathology become fixed, yet careful research and untiring industry have given a wealth of scientific results and principles that challenge comparison with the world beside. Although therapeutics has hardly kept pace with the other departments of medicine, yet one has but to take the retrospect of a decade to learn that it too has made rapid advancement, and to-day chemical science is furnishing its products for application in greater abundance and in more elegant form than at any other period in its history.

I regard careful, persistent, clinical study by the student as indispensable to a thorough medical education. Not that form of study that consists in running through hospital wards twice a week, in the rear of a learned professor, to see and hear and smell one knows not what; but a careful, daily bedside study of disease and its manifestations, supplemented by lecture and text-book, and a careful observation of the means employed, and their effects as well. This constitutes the only clinical instruction worthy of the name. Clinical medicine can be studied advantageously only in our larger cities, where, and only where, material as diversified as disease itself abounds.

The practical application of this view would necessitate the closing of our country schools, and should do so at once. It would bring public

instruction within such limits as more perfectly to control it in the interest of a higher standard of studentship and a more perfect education. I may be pardoned if I seem to take radical ground upon this important question; for as a graduate of a country school more than a quarter of a century ago, my earlier professional life was daily embarrassed by a want of such practical training in bedside observation of disease, and the application of means thereto, as every large, well-regulated hospital furnishes to all who have eyes to see and judgment to appreciate and appropriate.

Hygiene and preventive medicine have received but little consideration from the profession of this country. Bowditch, Hunt, Toner, and a *very few* worthy compeers, may be justly considered the pioneers in this department of medicine. The laws of established disease have largely occupied the profession, to the exclusion of a study of the laws of *prevention*, till within the last decade. . . . The increasing density of our population and its cosmopolitan character, the development of new territory, and with it new disease, or modifications of old newly typed and disguised, furnish a necessity for active work in this department of medicine hitherto unappreciated by general practitioners. The profession have here a subject worthy of its most careful and wise consideration. And the laity can be secured as aids in this vast field of sanitary science. Lemuel Shattuck, Esq., of this city, is an eminent illustration of this proposition.

The public health and social science associations, though in their infancy, are doing a good work in sanitary science. Our state boards of health, especially that in our own commonwealth, are gathering a fund of scientific material of inestimable value to the present, and emphatically to future generations; for the period is not remote when from this storehouse of material popular sanitary literature will issue and be disseminated, as vital to the health and life-interest of every household; and medicine must take the initiative in this matter. In the country districts, especially, it cannot longer escape the responsibilities attaching to this subject. The law constitutes the boards of selectmen health officers in our municipalities where local professional boards do not exist; and though they represent the average intelligence of our population, they have as a rule never given thought to the subject of hygiene, and hence are of little value, except as executive officers to isolate small-pox, which is the only disease they recognize as coming within their jurisdiction, and happily that is of rare occurrence. Therefore the country is destitute of any organized force in this department of medicine. The district societies, conjointly with the parent society, are the natural allies of the board of state medicine, to study and report the endemics and epidemics, embracing their laws of development, originat-

ing external to the human organism, both geological and meteorological, the latter, by reason of the intervention of artificial laws, furnishing a prolific field for medico-scientific research.

The time and strength of American medicine has been so largely absorbed in developing science for its own purposes that it has given but little thought to questions that may be denominated medical politics, upon which hang its reputation in morals and its rights in legislation. In 1639 the colony of Virginia passed "an act" in the interest of educated medicine and the public also.<sup>1</sup> The colony of Massachusetts passed a law in 1649, which was repeated in the Duke of York's grant, in 1665, for the protection of the public against the medical impostor. But to New York belongs the honor of creating, in 1760, the first statute recognizing the right to protection of *both* physicians and people, entitled An Act to regulate the Practice of Physic and Surgery in the city of New York.<sup>2</sup>

The preamble to this act expresses so perfectly the situation of to-day that I venture to quote: "Whereas many ignorant and unskilful persons in physick and surgery, in order to gain a subsistence, do take upon themselves to administer physick, and practice surgery in the city of New York, to the endangering of the lives and limbs of their patients, and many poor and ignorant persons, inhabiting the said city, who have been persuaded to become their patients, have been great sufferers thereby; for preventing such abuses for the future, Be it enacted . . . that no person whatsoever shall practice as physician or surgeon before he shall first have been examined and approved" by specified authority. In 1767 the first general regulations for the whole State were adopted.

In 1772 the colony of New Jersey passed "an act" of similar import; the penalty affixed to its violation in each case was £5. In the year 1806, and at various periods since, till 1874, New York has legislated in the interest of educated medicine. Her present statutes bearing upon this question clothe the censors of the state and county medical societies with authority to examine every practitioner of medicine who has not a diploma or other satisfactory evidence of proper qualification, and to reject any not duly qualified. To practice medicine in that State without proper credentials constitutes a misdemeanor punishable by fine or imprisonment, or both, at the discretion of the judge trying the case. In the year 1872 the State of Texas passed a law, which was amended in 1875, regulating the practice of medicine and surgery within its borders. It compels every person practicing medicine and surgery to submit to an examination in anatomy, physiology,

<sup>1</sup> Toner's Annals of Medical Progress, page 50.

<sup>2</sup> Harris's Abstract of the Principal Laws of the State of New York relating to the Medical Profession, 1875.



pathological anatomy, pathology, surgery, obstetrics, and chemistry. It provides for the appointment of a board of not less than three physicians by the judges in each judicial district. This law is being vigorously enforced throughout the State, with results as satisfactory as its friends had reason to anticipate. It will be observed that theory and practice, therapeutics, and materia medica do not come within the purview of this law ; but persons educated in the branches of medical science embraced by this statute may as a rule be regarded qualified to practice medicine. To have attempted to embrace the whole would have prevented any enactment.

The legislature of New Hampshire passed "an act" in 1875, "to regulate the practice of medicine and surgery." By section one of that act each and every medical society, organized under a charter from the legislature of that State, shall, at each annual session thereof, elect a board of censors consisting of not less than three members who shall hold office till others are elected, which board shall have authority to examine and license practitioners of medicine, surgery, and midwifery within the state, except practitioners who have at the date of this act resided five years in the city or town of their present residence. All persons found qualified by proper diploma or upon examination are furnished a certificate of the fact by said board, which certificate must be duly recorded in the county where said practitioner resides, and may be revoked or annulled by the authority granting it. If the holder violates specified provisions of the law, and attempts to practice without a certificate, it is made a misdemeanor punishable by severe penalty.

The State of Vermont passed an act in 1876, identical with that of New Hampshire, except that it recognizes *midwives*, and permits them to practice midwifery where they reside, and exempts them from examination.

A law of similar character, provisioned to conform to our peculiar requirements, would result to the advantage of educated medicine, and emphatically to that of the people.

This society possesses the wisdom and the influence to draw, and cause to be engrafted upon our statute books, a law adapted to the necessities of this commonwealth ; and that, too, before the expiration of another legislature. The medical profession has hitherto occupied a false position regarding questions legitimately hers. She should *direct* legislation upon all questions involving the public health ; this is a right conceded to other professions and occupations, where there is a substantial agreement among the parties in interest, as to the necessities for, and character of, the legislation sought. Then why not to medicine, when in the interest of a universal humanity ? This commonwealth sustains an anomalous position relative to scientific medicine and the public weal, in view of her recognized culture, and her professed regard

for and protection of the rights of her humblest citizen ; for she pays no tribute to learning, to experience, to honest professional work, so far as statute law is concerned. The cultured and uncultured, the honest man and the knave, occupy a common level, and her citizens are permitted to be preyed upon, and robbed of their substance, their health, and their life even, with impunity by charlatans who infest every city and populous town. The burglar, the highway robber, the midnight assassin, are recognized enemies to safety and good government, and severe penalties await the perpetration of their crimes ; while an infinitely greater enemy to both has no recognized status under our criminal code of law ; a fact demanding instant remedy by legislative enactment, prohibiting the practice of medicine and surgery by any person within this commonwealth who cannot give evidence by diploma from a legally organized medical college, or who, upon examination by a competent legally constituted medical board, is not found to possess adequate knowledge of anatomy, physiology, chemistry, surgery, pathology, pathological anatomy, obstetrics, and medical jurisprudence. That society is infested by enemies who are wrecking the physical constitution, degrading society, and undermining the very foundation of our civilization, is patent to the most superficial medical observer ; and no voice is heard in protestation, nor arm raised for protection.

The next foe to which I advert, is the professional abortionist, who is plying his nefarious practice in every community, involving all classes of society, ravaging the folds of the flock all over our commonwealth, and nation as well, consigning mothers to untimely graves, and robbing the generations of their legitimate fruition. There is not a physician of five years' experience in this presence, who cannot point to broken, stricken households, or to wrecked constitutions, from this cause. The ethics of our society voice its condemnation, and here and there it has been rendered effective by the trial and expulsion of the culprit ; but this has been a spasmodic demonstration, an exceptional act. If there are any of this class still within our jurisdiction, our first duty to ourselves, to the profession at large, and to humanity, is to arraign them and visit upon them condign punishment, and that speedily. But the large mass of offenders are vile charlatans, without our jurisdiction, who assume the title of doctor to deceive the unwary and replenish their coffers.

Medicine should at once proclaim itself upon this subject in language and manner not to be misunderstood and worthy of a noble profession. It is a crime against the body politic that cannot be totally suppressed, but it can be greatly diminished, and the honor of the profession in the effort vindicated. The means to this end are, first, by creating in the public mind a realization of the physical danger attending its perpetra-

tion; second, by efforts to elevate the moral sense of the public to a more adequate appreciation of its criminal character; and third, by causing a revision of our criminal code of law, that it shall recognize the wanton destruction of foetal life a crime coequal with maternal sacrifice.

Allied to this question is another of an importance to demand legislation, both state and national. I refer to the wholesale distribution of quack medicines over our country, — declared panaceas for every disease possible and impossible, within the limits of a single cover. These medicines are swallowed and applied to an extent fearful to contemplate, in view of their contents. Some contain narcotics, notably those prepared for childhood and infancy; some contain poisonous elements, destructive to tissue by continuous use; and some contain alcohol in large proportion; three powerful agents for good when rightly applied, or potent for destruction when used indiscriminately.

At the threshold of life, “soothing syrups” and “pain killers,” in the hands of careless mothers and nurses, are proving the American Ganges to the infancy of this generation.

Nor is the curse limited to this class of our population. These narcotics, with “balsams, bitters, hair-restorers,” and their like, are depraving taste and inciting functional and organic lesion among all classes to an alarming extent.

Nor do the responsibilities of medicine rest here. The educational system of our country, of inestimable value, constituting the chief bulwark of our civil liberty and of our republican institutions, when properly directed, has developed errors of physical and mental discipline demanding the earnest interposition of medicine. The physiologist has long since discovered and called attention to these evils, but they have never been voiced, nor their eradication attempted by the medical profession.

Our school law recognizes children of from five to fifteen years inclusive, its wards; demands attendance at school for thirty hours a week, and forty weeks in a year. Our educators, desirous of obtaining the largest possible mental development, subject this plastic material to a strain in excess of nature’s law of toleration, which must ultimate in physical and mental degeneracy; when by proper modification the interests of both would be subserved. The absurdity of subjecting the child of five years to the same physical discipline as the one of ten or fifteen seems too apparent for discussion in this year of grace; but the fact remains, and medicine is called to solve the problem for its correction in the interests of humanity. The curriculum of study for the advanced classes in our schools embraces elementary anatomy, physiology; and chemistry, and while exceptionally they are taught, as a rule they

are ignored for the reason that the teacher has no adequate appreciation of their value. Instruction in these departments of science should be made obligatory, and not permissive merely. The importance of this question is too apparent to require elaborate argumentation in this presence, therefore the great necessity of urging upon our boards of education attention to this subject with a view to its correction.

The question of mixed schools for the education of the American girls who have reached the period of puberty is one worthy of earnest, immediate attention. The transit of girlhood to womanhood involves an important change in the physical, mental, and moral constitutions, with mutual relations so intimate that to neglect or pervert either involves the whole, a truth which renders this subject of great importance to the race whose motherhood of the generations is involved.

Dr. Clark, an honored fellow of this society, in his *Sex in Education*, has fully and admirably discussed this question. His portrayal of the evils resulting from an associate education with the other sex, viewed from a physiological standpoint, is clear, forcible, and unanswerable. Our female seminaries, as at present conducted, are chargeable with violation of hygienic laws to an extent inexcusable, and requiring instant remedy. They are devoted to education in the arts of polite literature, and give but little time or thought to conserving the physical forces. Chairs of hygiene, as well as physiology, should be established in every seminary of this class, and competent instructors secured for the work so long neglected in this department of science. I shall hardly be charged with exaggeration when I affirm that the average adult in this country knows less of his own mechanism and its governmental laws than of any other science that has engaged the popular attention, and to this fact is due the popular indifference to instruction in its fundamental principles.

Female membership of this society is a question that has forced itself for solution, and will do so again. That a majority of the profession through our country look with disfavor upon female medical education is undoubtedly true; and the arguments in defense of this position are numerous, well founded, and, we believe, unanswerable. That the women of the country concur with the profession overwhelmingly is also true. But a small and aggressive minority entertain an opposite view. They believe that theology, law, and medicine furnish suitable fields for female effort, and one of the number appears at our doors for admission to membership. She has been educated in all the branches of science contemplated by our by-laws; her credentials are faultless; she can sustain the most searching examination by our board of censors; she is to assume the responsibilities of professional life; the public will give her its confidence, accept her services, bestow its emoluments

regardless of our preferences or acts. What we may think of female or mixed colleges in the abstract is foreign to the question at issue ; in that we are essentially agreed ; but we are organized in the interest of science and the public weal. We welcome a new scientific disclosure regardless of origin or authorship ; its value is not commensurate with either, but with its possibilities. Can we, therefore, go behind the exponent to the color, race, or sex without inviting and surely receiving severe criticism ? And is not such position illogical, nay, indefensible from a scientific stand-point ? Arguments, pro and con, of marked ability, from some of ablest membership, have been made ; legal interpretation of our rights to admit her under the act of incorporation has been invoked, giving an affirmative response, yet the antecedents of our society are negative in spirit and practice. I do not share in the solicitude lest the women of this country are to drop from the high estate and sacred sphere which God, and civilization in its highest type of development, have placed them. I do not fear lest they unsex themselves by entering our dissecting rooms, and by joining in surgical exploits. I have too much faith in the law of their effeminacy, in its immutability, which they cannot transcend if they will, they will not if they can. Therefore, when confronted as a society by this mystery in nature, armed with the mysteries of science, must we not admit the latter if lost in amazement at the former ?

Efforts have been made to disparage this society in the public estimation, by foes within and foes without, because of the exercise of a right inherent in every corporate body to prune and slough off any excrescence damaging to its vitality and to its dignity. These efforts have originated in quarters, and have been prosecuted with such pertinacity as to induce some to question the wisdom of our course. The cry of persecution and of proscription was adopted for the purpose of intimidation, hoping thereby to stay the hand of justice in the execution of her decrees. Timidity always exhibits weakness or guilt or both, and most emphatically where principle is involved, and to hesitate or take retrograde steps in such an emergency causes, as it deserves, the chagrin of friends and the contempt of foes.

As a society we are united by cords of mutual responsibility and good faith which can never be broken by a temperate and wise enforcement of our by-laws and code of ethics. They are our Magna Charta, and must be kept inviolate. They are wisely drawn and catholic in spirit. They permit the widest diversity of opinion and practice consonant with science. They frown upon all dogmas, pathies, and isms, as frauds in their assumptions. Yet they appropriate and absorb all of truth embraced in either. They forbid professional affiliations with exponents of any exclusive system or dogma as degrading to our science and damaging to our reputation. They declare there is but one true science of

medicine, which embraces within its scope all truth, from whatever source derived, that can be applied to ameliorate human suffering, to promote longevity and the greatest possible physical, mental, and moral perfection. They pronounce modern eclecticism a fraud, for it elects from a limited field in its materia medica and therapeutics. They declare hydropathy a fraud, because it converts water into a universal panacea, denying all philosophy and *drowning* all reason. They assert "allopathy" a fraud in significance and application: a creature of desperation, conceived by empiricism to disparage rational medicine before the judgment of the world. They denounce homœopathy as the giant fraud of the nineteenth century, and so do its nominal advocates and practitioners; for they repudiate its fundamental principles in their daily practice, and this duplicity constitutes their chief shame. Homœopathy, as taught by Hahnemann and his earlier disciples, was so grossly unphilosophical and inert that the generation of its birth would have witnessed its death and consignment to oblivion had it not been abandoned in the domain of materia medica and therapeutics. With so powerful an ally as nature furnishes for the dislodgment of functional disease, homœopathy was compelled to abandon its tenets, or alarm and dispel the household of its faith; yet it has never risen to that plane of moral honesty to admit that rational medicine is furnishing it principles of treatment and means for their application. In Germany, the place of its birth, and in France, that of its adoption, there are rarely to be found those so poor as to do it homage. In Great Britain it has maintained but a precarious, sickly existence, and is rapidly dying out, to pass into history with a reputation less enviable than its sister frauds, — the royal touch, chrono-thermalism, and Connecticut Perkinsism; and in this country, though having abandoned its system while it still wears the cloak, it has passed the zenith of its power, even in its disguise. The public mind has but to be illumined by these facts to enable scientific medicine to mount to that plane of influence to which its merits have long since assigned it. Our duties to the public performed, we have no fears for the medicine to come. Pressing forward with the inspiration of the centuries behind her, she is prepared for new triumphs, and is filling all her opportunities with results rich in material and grandly efficient in their practicalities. The collateral sciences are yielding their proportionate quotas in enriching medical literature, and in arming the practitioner for the daily conflicts of professional life. The work of rational, scientific medicine universally made known, its incalculable worth will be acknowledged by the race who constitute our constituency.

Here let us pause in our festivities and pay homage to the honored dead.

Since last we met, the sickle of the destroying angel has entered our circle, and consigned to another and larger circle beyond the shores of time some of our ablest and best: the veteran in years and accomplishments, those in the meridian of life, and the young in the midst of their hopes, while reaching forth with all the ardor of youth to a name and fame in this their chosen life avocation. Death is no respecter of age or acquirements: all must bow alike to its decrees. While we cherish the memory of all our fellowship who have deceased within the year I might seem derelict in the duty custom imposes upon my position did I not recall the name of Channing,<sup>1</sup> who for scores of years upheld the banner of our profession as teacher, practitioner, and fellow of our society, dying at last full of years, with a life-work behind him worthy of the highest emulation; or of Morland,<sup>2</sup> cut down in middle life, in the midst of his strength and usefulness, leaving no physical lesion to tell us why; or to Buckingham,<sup>3</sup> the sound of whose voice has hardly died upon our ears in promulgating and defending scientific medicine, a beloved instructor, a successful practitioner, an honest man, whom to know was to respect and love. Let us, in recounting the memories of these, and of the others who have passed from death unto life from our fellowship, so live that, when our summons comes to go hence to join them, we can lay down our armor, conscious of having fulfilled our obligations to diseased humanity, to each other, to society in its highest and noblest relations, and to God, who is able to give us the victory over sin and death, and reward us with a crown of everlasting life.

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## RECENT PROGRESS IN DERMATOLOGY.<sup>4</sup>

BY JAMES C. WHITE, M. D.

*Melanoderмата*. — A discussion<sup>5</sup> with regard to these obscure affections took place in the Medical Society of the College of Physicians, Dublin, upon the report of A Case resembling One of Addison's Disease, by Dr. Duffey. The cutaneous manifestations, although closely resembling those of the latter affection, disappeared under tonic treatment and good food, and belonged to a series of temporary pigment disturbances which have been recorded from time to time as occurring in individuals living in abject misery. Such cases have been called vagabond's disease. In Gillet's Contributions à l'Histoire de la Mélanodermie<sup>6</sup> several such cases are reported, collected from the Paris

<sup>1</sup> Dr. Walter Channing died July 27, 1876, aged ninety.

<sup>2</sup> Dr. William W. Morland died November 25, 1876, aged fifty-eight.

<sup>3</sup> Dr. Charles E. Buckingham died February 19, 1877, aged fifty-five.

<sup>4</sup> Concluded from page 682.

<sup>5</sup> Dublin Journal of Medical Sciences, March, 1877.

<sup>6</sup> Thèse de Paris, 1869.

hospital. In nearly all of them the presence of phthiriasis is noticed, and there can be no doubt that this element is often a powerful, if not the sole factor, in the causation of such forms of melasma. The ravages of body lice continued for years upon the skin have been shown to be capable of developing, in consequence of the constant state of cutaneous hyperæmia excited by them, a hue almost as dark as that of the blackest African races.<sup>1</sup>

*Pigment Deposits.* — Gussenbauer<sup>2</sup> gives the results of his observations of the progressive development of pigment in melanotic sarcoma and other forms of melanoderma. There ensues at first a retardation of the circulation in the small arteries and veins, then expansion of the capillaries and complete stoppage of the current. This is the first stage. Afterwards decoloration of the red corpuscles takes place, with solution of the hæmoglobin in the blood plasma and its diffusion through the walls of the vessels, and finally the absorption of the dissolved coloring matter by the tissues surrounding the vessels. This forms the second stage of the process. The last is the deposition of the pigment in the form of granules of various color.

*Elephantiasis Arabum.* — Wernher gives<sup>3</sup> an analysis of the results of treatment in thirty-two cases in which ligature of large arteries was performed (the femoral twenty-three times). In all but one of the latter series the size of the leg was immediately reduced, but the result was permanent in three cases only. Compression of the femoral, digital and instrumental, was tried four times by Dr. Wernher, and in all of them the diminution in size was as rapid and the effect as permanent as after ligature. As this operation is unattended by the dangers inseparable from tying, he thinks it should be preferred.

*Hirsuties.* — Dr. Duhring reports<sup>4</sup> a case and publishes a lithographic portrait of a woman, twenty-three years old, upon whose face is an abundant mustache and beard, the hairs of the latter being four or five inches in length. The back is also somewhat hairy over nearly its whole surface, but the other parts of the body are not remarkable in this respect. The growth upon the face began at the age of ten and continued to increase until she was eighteen, since when it has undergone no change, having never been cut or shaved. Menstruation began when she was fourteen years old, and she was married at seventeen and a half, and has had two children. There are no other signs of masculinity about her, nor have other members of her family for several generations exhibited any *hirsuties*.

*Tattooing of Nævi.* — Dr. Sherwell, of Brooklyn, reports<sup>5</sup> the suc-

<sup>1</sup> See an example in Hebra's Atlas of Skin Diseases.

<sup>2</sup> Vierteljahresschrift für Dermat. und Syph., iii. Jahrg. 3 Heft, from Virchow's Archiv.

<sup>3</sup> Deutsche Zeitschrift für Chirurgie, 1876.

<sup>4</sup> Archives of Dermatology, April, 1877.

<sup>5</sup> Archives of Dermatology, April, 1877.



cessful treatment of several cases of vascular nævi, by tying together some six or eight sewing or suture needles which have been previously wound individually with waxed thread, and, after dipping the points of the instrument thus prepared in a strong solution of carbolic or chromic acid, puncturing the affected skin repeatedly with the same. After the slight bleeding ceases the part is wiped with alcohol, and then painted quickly with two or three layers of collodion. The process may be repeated or extended to other portions of the nævus, if large, in a week or ten days.

*On the Use of Chrysophanic Acid in the Treatment of Skin Diseases*; <sup>1</sup>  
*On the Use of Goa Powder in Ringworm*.<sup>2</sup>— These and several other articles upon the cure of tinea circinata by these substances may be found in journals of the past few months. Goa powder, araroba, poli de Bahia, as it is variously called, is a vegetable substance of South America, finding its way to us through India, where its present reputation was gained by its employment against Burmese ringworm. It contains about eighty per cent. of chrysophanic acid, which seems to be its parasiticial principle. Both the crude powder and the acid possess a decided destructive power over the fungus of the ringworm, and are employed in various forms. On the favus plant, too, it seems to exert the same action. With regard to its influence upon tinea versicolor we are unable to report. With tinea favosa and tonsurans of the hairy portions of the skin, however, it is doubtful if it will be effective, owing to the great difficulty in bringing the agent in contact with the fungus growth in the depths of the hair follicles.

*Treatment of Ringworm of the Scalp by Croton-Oil*. — Dr. de Lacharrière,<sup>3</sup> in order to overcome the latter difficulty, advises the employment of croton-oil mixed with an equal part of lard. This preparation is to be rubbed repeatedly into the scalp until the hairs of the affected parts loosen, owing to the specific folliculitis produced by this substance, and fall. He states that he has obtained many cures in six or eight weeks in this way, after the usual methods of epilation, mercurial applications, and the like have failed.

*The Action of Water upon the Healthy and Diseased Skin*. — Professor Hebra, at the close of an article<sup>4</sup> upon this subject, offers the following conclusions:—

(1.) Water is by no means an indifferent agent, but exerts a decided irritation upon the skin, which is capable both of producing diseased action upon it and of causing morbid conditions to disappear.

(2.) It is not the temperature but its macerating and irritating property which is the principal factor in the use of water.

<sup>1</sup> Dr. Balmanno Squire, British Medical Journal, January 20th, et seq.

<sup>2</sup> Dr. H. R. Crocker, Lancet, January 27th, etc.

<sup>3</sup> Bull. gén. de Thérapeutique, August 15, 1876.

<sup>4</sup> Wiener med. Wochenschr., Nos. 1 and 2, 1877.

(3.) In its employment as fomentations, baths, etc., therefore, the subjective feelings of the patient should determine the temperature.

(4.) General washings or baths, either cold or warm, do not serve as prophylactic measures against affections of the internal organs, but frequently produce diseases of the skin.

(5.) When baths are to be employed with any effect in the treatment of skin diseases, they should always be of considerable length, never less than an hour, and in proper cases warm baths may be continued uninterruptedly, day and night, for months.

*The Mechanical Treatment of Skin Diseases.* — Professor Auspitz, of Vienna,<sup>1</sup> contributes a timely article upon this subject, which is at present engaging perhaps an undue amount of the attention of dermatologists. His contribution is a valuable one, because it is very impartial in tone, and his conclusions are based upon personal investigation. He recognizes four methods of applying mechanical impressions to the skin: (1) in the form of coverings, by powder or impervious dressing; (2) by rubbing with either smooth or rough surfaces; (3) by scooping or scraping with blunt instruments; and (4) by puncturing or scarifying with pointed, awl, or lance shaped instruments. The objects to be accomplished by such means he considers to be various: first, the establishment of a protection against the air, by which at the same time the fluid products of disease are absorbed, or the skin is fomented by the retained secretions; this is effected by the coverings. Second, irritation or stimulation, which may be accomplished by friction, by scraping with the scoop when the surface is unbroken, and by pricking. By these means the process of inflammation or infiltration may be checked, and the products reabsorbed, partly by an impression upon the peripheral nerves or capillaries, partly and more directly by the destruction of their continuity and local depletion. Third, the removal of diseased portions of tissue, which can be effected either by friction with blunt instruments or by the scooping or scraping process. The materials employed for these various purposes may be briefly enumerated: in the first class the powders, meal, lycopodium, talc, alum, zinc oxyd, bismuth, tannin, etc., and the impermeable rubber cloths, which act as a continual bath. In the second class, instruments for friction, we have water, the various textile fabrics, certain rough substances as pumice-stone, sand, etc., and soaps, by the use of which we may remove chemically or mechanically various forms of efflorescence or secondary products, such as crusts, scales, and the like. In speaking of the action of soap the author makes the following amusing remark: that the most highly cultivated European society is no healthier and stronger than the *seifenscheue Rowdy Nordamerikas oder der ungewaschene Südsee-Insulaner* (shy-of-soap North American rowdy or the

<sup>1</sup> Vierteljahresschrift für Dermat. und Syph., iii. Jahrg. 4 Heft.

unwashed South Sea Islander). Now there was no occasion to go so far from home to seek examples of dirty skins, for the filthiest races that live belong to the Austrian empire, and are to be seen daily in the skin clinics of its capital, in comparison with whom the American "rowdy" is an alabaster statue, while the South Sea Islanders spend notably a large part of their life in the water. In the third class we have the scoop or curette and the various instruments for puncture or scarification.

The author in the second part of his interesting article discusses the application of these methods in the various diseases for which they have been recommended, giving the valuable results of his own experiments. These affections are eczema, psoriasis, prurigo, lupus vulgaris, lupus erythematosus, acne and comedones, epithelioma, and several minor forms of cutaneous disease. Unfortunately, we have not space to present his conclusions in such detail as would do them justice. In eczema, in addition to the use of powders and rubber cloth in the appropriate stages, he has applied with good effect to limited patches of old and deep infiltration friction with pumice-stone or fine sand, rubbing the latter in on a piece of wet flannel. The friction is continued until slight excoriations are produced, when the parts are painted with a thin coating of oil of cade and covered with rubber cloth. This process is repeated once or twice daily, until the infiltration is reduced, and may be regarded as a substitute for the use of caustic alkalies as recommended by Hebra in similar conditions. In psoriasis he has seen no very beneficial results from scraping, rubbing or puncturing. It is in lupus vulgaris, the disease in which these processes were first employed, that the greatest good may be effected by their use, for by the scoop the destruction and removal of the diseased tissue may be most rapidly accomplished. He uses the spoon for surface infiltration and ulcerations, the lancet for the hyperæmic, infiltrated surroundings, and the stick caustic for the tubercles. These different means may be employed upon any part at the same time, and the process repeated several times a week. Acne and comedones he treats by plunging an instrument with a sharp conical point to the very base of the diseased gland, and then removing by the scoop all diseased products, by which much better results are got, he thinks, than by puncturing with an ordinary lancet. In sycosis shaving is practiced daily, and then the nodules and pustules are treated as in simple acne, keeping the parts enveloped in cloths spread with diachylon ointment. In acne rosacea attempt is made to destroy the enlarged cutaneous vessels by slitting them with a cataract needle, to relieve the surface congestion by repeated puncturing, and the nodules are attacked by the stiletto and scoop. In lupus erythematosus he has obtained the best re-

sults by scraping out the diseased tissue from the centre of the patches, and puncturing with the lancet the hyperæmic surroundings. In epithelioma (the flat form) he does not trust to the scraping process alone, but uses with it caustic pastes spread upon cloth. In the nodular form the scoop is of no benefit.

*The Actual Cautery.* — Piffard, of New York, contributes<sup>1</sup> an article upon the use of the cautery in cutaneous surgery, in which he gives a brief historical account of the instruments employed for this purpose hitherto, and of the improvements made in them. He considers the new galvano-cautery batteries of American construction and the heat cautery of Paquelin the best for general purposes; although the solar cautery (by lens) and the heated wire are serviceable at times. The affections in which the actual cautery has been found of service are rosacea, varicose veins, angioma, nævus vascularis, lupus, epithelioma, ulcers, and chancreoid.

*Poisoning by Cosmetics.* — Rosenthal publishes<sup>2</sup> a series of cases in which most serious affections of the nervous system, some of them with fatal termination, were produced by the long-continued use of cosmetics containing lead and mercury.

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## TWENTY-EIGHTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT CHICAGO.

TUESDAY, June 5, 1877. Dr. J. Marion Sims, the retiring president, called the meeting to order. He then introduced the president, Dr. Bowditch, with some complimentary remarks, to which the latter briefly responded. Bishop Harris offered prayer, after which Dr. N. S. Davis, of Chicago, delivered the address of welcome. After speaking of the history and attractions of the city, he spoke in praise of the profession. He hoped that his hearers would come to the discussions of the convention with a deep realization of the honor and antiquity of their calling. One word more he wished to say. As this new president had been introduced, it had brought flashing to his mind the first meeting of this assembly, when there were gathered together only seventy-six. Not one of these did he see before him now, so few had they become. The speaker here, looking about the audience, said that he recognized one of these pioneer members, and alluded to Dr. Washington L. Attlee, of Philadelphia, whereupon the gentleman referred to was greeted with applause.

The president then delivered the annual address,<sup>3</sup> at the close of which the thanks of the association were tendered him on motion of Dr. Brodie, of Michigan, and it was ordered to be published.

The recommendations contained in the address were referred to the following special committee: Drs. William Brodie, of Michigan; S. D. Gross, of Philadelphia; Eugene Grissom, of North Carolina; J. R. Smith, U. S. A.;

<sup>1</sup> Charleston Medical Journal and Review, January, 1877.

<sup>2</sup> Wiener med. Wochenschr., 1876, und Vierteljahr. für Dermat. und Syph.

<sup>3</sup> Vide last week's JOURNAL.

J. R. Bartlett, of Wisconsin; J. P. White, of New York; J. M. Toner, of the District of Columbia.

#### THE SECTIONS.

Section 1, Practical Medicine, Materia Medica, and Physiology, was called to order by the chairman, Dr. P. G. Robinson, of Missouri. Dr. B. A. Vaughan, of Mississippi, officiated as secretary.

The first subject before the assembly was the treatment of croupous pneumonia, by Dr. A. B. Palmer, of Michigan. The title of this paper was *The Effects of Quinine in the Treatment of Pneumonia*, and the antipyretic value of doses of from twenty to forty grains of the drug given within twenty-four hours, combined with a moderate dose of morphine, was well set forth. The next paper was entitled *Effects of Remedies in Small Doses*, by Dr. John Morris, of Maryland; the possible effect of very minute doses was discussed. The reader of the paper asked to have it excluded from the records of the association, owing to some defects which he saw in it, and that he be allowed the privilege of printing it, with the recognition of the association, in any medical magazine he should select. The requests were granted.

Section 2, Obstetrics and Diseases of Women and Children, was called to order by Dr. James B. White, of New York, Dr. Robert Battey, of Georgia, acting as secretary.

The secretary read a paper by Dr. W. H. Byrd, of Quincy, Ill., upon *The Surgical Treatment of Some of the Diseases of the Female Urethra*, and it was discussed by Drs. Marcy of Massachusetts, Smith of Iowa, Jenks of Michigan, Kendall of Illinois, and A. Reeves Jackson of Chicago.

Dr. Jenks, of Michigan, offered a resolution to the effect that a committee of three be appointed by the chair, to whom, with the chairman and secretary, all papers read should be referred, to decide as to the propriety of publishing them.

The resolution was adopted, and the chair appointed Drs. Jenks of Michigan, Dean of New York, and Marcy of Massachusetts.

A paper on *Extirpation of the Uterus*, by Dr. Gilman Kimball, of Massachusetts, was read by Dr. Martin, of Massachusetts, and a somewhat lengthy discussion was carried on relative to the subject by Drs. Reamey of Cincinnati, Kimball and Martin of Massachusetts, Smith of Iowa, Sims of New York, Jennings of Arkansas, Morris of Massachusetts, Attlee of Philadelphia, Byford of Chicago, James Grant of Ottawa, Can., Dr. Mary Thomas of Indiana, and the chairman of the section.

Dr. N. Bozeman, of New York, read a paper on *Vesico-Vaginal Fistula*.

Section 3, Surgery and Anatomy, was organized with Dr. F. H. Hamilton, of New York, as chairman, and Dr. John E. Owens as secretary.

The first paper read was by Dr. J. T. Hodgen, of Missouri, upon *The Value of Extension in the Treatment of Fracture of the Femur*. In the paper the following propositions were set forth:—

(1.) That in the treatment of fracture of the femur continuous and equable extension is indispensable to the best results is conclusively shown in the impossibility of maintaining with equal certainty accurate coaptation by any other means.

(2.) That continuous and equable extension cannot be secured by lateral support.

(3.) That continuous and equable extension can be secured only by suspending the limb, because in no other way can we avoid friction between the extending force and the part to be extended.

(4.) That suspension furnishes the best means for allowing motion to other parts of the body, while perfect apposition of the fragments of fractured thigh is constantly maintained, because there is no resistance offered to the movement of the limb in any direction in which the body may be moved except in the direction from the point of suspension, and in every other direction the limb follows the movements of the body without the least friction.

The discussion which ensued centred upon the above propositions, in regard to which Dr. Keller, of Arkansas, said his experience warranted his arrival at entirely different conclusions from those to which his fellow practitioner had come. Several gentlemen, however, indorsed the propositions of Dr. Hodgson, among whom were Drs. W. H. Hingston, of Montreal, and Earley, of Arkansas.

Dr. Hingston offered the following resolution, which was adopted:—

*Resolved*, That in fractures of the thigh, notwithstanding the judicious employment of every mechanical contrivance hitherto devised, shortening of the limb is of frequent occurrence.

Dr. Peck, of Iowa, then said that inasmuch as there was a slight misunderstanding on account of what was said last year regarding the treatment of fractures, he would offer the following resolution:—

*Resolved*, That it is the opinion of this section that shortening in cases of fracture of long bones is the rule in practice regardless of any of the plans of treatment now in use.

A spirited discussion ensued upon the submission of the resolution. Some strongly advocated its adoption, while others as strongly objected to it. A motion was made to lay it upon the table, which very nearly had the desired result.

Dr. Hevans, of Missouri, did not think the passage of such a resolution advisable. He objected to any association voting upon a scientific subject.

On the other hand, Dr. Gunn, of Chicago, thought the resolution ought to be carried. He did not look upon the question as one of science, but one of fact. Shortening of a fracture was the rule, and full length the exception. This was the purport of the resolution, and he hoped it would be passed.

After some further talk *pro* and *con*, the resolution was adopted, and the paper referred to the committee on publication.

Section 4. Medical Jurisprudence, Chemistry, and Psychology, met with Dr. Eugene Grissom, of North Carolina, as chairman.

The first essay read was by Dr. John P. Gray, of Utica, New York, on The Relations of Spiritualism to Medical Jurisprudence. He took as the foundation for his effort the Ward will case, and drew several conclusions from the facts, as follows: (1.) Spiritualism must not be taken as evidence of insanity. (2.) A belief in communications from the unseen world from supernatural messengers is not an insane delusion. (3.) The belief that mediums can communi-

cate with the dead is not an insane delusion, but no evidence has been as yet presented of the truth of such communications having been made. They are mere assertions of the so-called mediums. (4.) The implication of fraud must stand against all such persons' communications, as the dead party cannot be reached except through the so-called medium, and therefore the living party to whom the communication is made has no power of communicating with the dead. The whole is received simply through the medium. (5.) Such communications cannot be received in courts of law, as they are excluded by the rule of rejecting conversations not held in the presence of both parties. (6.) If spiritualism is espoused as the result of the disease of the brain, being before repugnant to the belief and mental operations of the individual, then it is an insane delusion. Spiritualism must be regarded simply under such ruling of the court as undue influence. When it is a fraudulent influence, or conspiracy in the case of writs or contracts, then the writs and contracts made under such influence must be void. (7.) The most serious questions would arise where a person should attempt to commit homicide under the direction of the so-called spirits. The presence of a medium in such a case would suggest fraud and conspiracy. If the individual were a spiritualist through life and before the time, no insane delusion can be claimed, unless it can be found in a brain disease. He would have to stand in that case upon the same platform as ordinary criminals. (8.) Spiritualism can be considered only as an occasional delusion, and not as a cause or form of true aberration. It stands on the same footing as witchcraft, vampirism, etc. (9.) The medico-legal bearing must be determined by the facts in such a case, whether it is an insane delusion or entertained simply as a speculative belief with reference to the unseen world. Medical science can take no cognizance of it as a speculation.

Section 5, State Medicine and Public Hygiene, met with Dr. E. M. Hunt, of New Jersey, in the chair. The principal feature of this committee's session was the reading of a very exhaustive and able paper on The *Ætiology of Enteric Fever*, by Dr. J. L. Cabell, of Virginia. The essay was very long, and treated of the conditions under which the fever is most readily developed. He had given the subject careful study, and his essay was illustrated by many interesting and valuable cases in the practice of medicine in his State. Dr. Cabell in his paper took the ground that the proof of indirect contagion is without a doubt. There are other causes for these fevers beside sewers and fecal matter, and he cited many instances where the fever had broken out in the healthiest mountain regions, away from miasmatic influences. He takes the ground that it is a specific fever, and its origin is largely attributable to contact with the sick.

WEDNESDAY, June 6th. Dr. E. R. Squibb read a paper on the revision of the United States Pharmacopœia, in which he severely criticised the last edition of the United States Dispensatory. Many recent improvements and important discoveries are not noticed, and useless foot-notes and explanations remain as they were in the former edition. Dr. Squibb's language was logical and convincing, and his address was received with favor; but he was of the opinion that nothing could be done this year in the way of preparing a new Pharmacopœia.

There were also addresses by Dr. P. G. Robinson, of Missouri, on Practical Medicine, and by Dr. James P. White, of Buffalo, on Obstetrics.

#### THE SECTIONS.

In Section 1, Dr. N. S. Davis read a Report on Clinical and Meteorological Records. His conclusion was that the bowel affections so characteristic of this temperate climate begin invariably with the first week of continuous high temperature, and each recurrence of an attack of bowel complaint is accompanied by continuous high temperature, but to produce disastrous effects the high temperature must immediately follow a season of cold. These conclusions Dr. Davis corroborated by citations from mortality tables.

Dr. Charles Denison, of Colorado, read a paper on Cases showing the Influence of Colorado Climate on Consumption, the paper being supplemental to one read in 1876. Dr. Denison was a warm advocate of Colorado air as a specific for consumption, and presented many tables of statistics relative to the subject. He gave detailed accounts of twelve phthisical cases, of which half were favorable and half unfavorable to the Colorado climate. He had been led to the conclusion that consumption might be benefited by the Colorado atmosphere, not only in its early but, under proper conditions, in its later stages. The influence of altitude on phthisis was favorable in the beginning of chronic inflammatory and hæmorrhagic cases, and in cases allied to these. It was unfavorable if the disease were characterized by cardiac disease, associated with increased labor and abnormal activity, with nervousness and want of courage. The paper gave rise to a warm debate.

Section 2 met with Dr. J. P. White, of Buffalo, in the chair.

Dr. Marey, of Massachusetts, read an essay on Congenital Absence and Imperfect Development of the Uterus.

Section 3, Surgery and Anatomy, met in Farwell Hall, the attendance at this section being greater than that at all the other sections combined. Dr. S. G. Gross read a paper prepared by his son, Dr. S. W. Gross, of Pennsylvania, on Stricture of the Urethra from Masturbation, and its Pathological Significance. Dr. W. T. Briggs, of Tennessee, read a paper on Medio-Bilateral Lithotomy, which was discussed by Dr. J. T. Hogden of Missouri, and Professor Langford and Dr. Gouley of New York. Dr. Lewis A. Sayre described his Treatment of Fractured Ribs by Extension and Expansion of the Thorax and Retention by Plaster-of-Paris Bandages. Dr. Whipple, of New Jersey, described an operation of his in which he removed one and a half inches of the tibia and fibula of a patient. In the discussion of this case, Dr. Link, professor of anatomy in Indianapolis, described cases in his practice showing that the repair of a bone did not depend on the existence of periosteum.

Section 4, Medical Jurisprudence, Chemistry, and Psychology, spent the entire afternoon in listening to and discussing a paper by Dr. R. J. Patterson, of Illinois, on the subject, Do Facts justify the Recognition of Moral Insanity as a Distinct Form of Mental Disease?

Dr. Patterson's conclusions were adverse to such recognition. His paper contained statistics from a large number of insane asylums, running back over several years, and showing a very marked diminution of cases of so-called "moral insanity." This proved either that the disease was becoming less fre-



quent, or that the doctors were losing their belief in the existence of such disease and attributed the cases to other diseases. Dr. Patterson objected to the recognition of moral insanity as a distinct form of mental disease, because there were no cases in which it was shown that a person suffered from "moral insanity" while the intellect was perfectly rational. No person would suffer by the denial of this recognition. The term "moral insanity" not only does no good, but it does positive harm by enabling unscrupulous lawyers to set up a specious plea in behalf of their clients, especially in cases of homicide, in which there is no question as to the soundness of the intellect. The cases of Sickles, McFarland, and many others were cited here. And finally, very few of the highest authorities, medical or legal, recognized such a disease as moral insanity, and the plea of that disease is looked on with suspicion by experts.

Dr. John P. Gray, superintendent of the New York State Lunatic Asylum, said the institution he had charge of had been cited by Dr. Patterson as refusing to recognize moral insanity. That was true so far as he was concerned, but his predecessor, Dr. Brigham, believed in it, and according to the asylum's records there had been two thousand cases of moral insanity in that asylum alone. He, Dr. Gray, had examined ten thousand cases of insanity without finding one that he regarded as a case of moral insanity. Dr. Brigham made three or four classes of moral insanity. One class was the impulsive, that characterized by a single manifestation, such as an impulse to commit homicide, with no other deviation from health. Dr. Gray did not believe such a case ever existed, but Dr. Brigham did. Dr. Gray would as soon think of impulsive diarrhœa as of impulsive insanity. The idea of a disease that comes in a moment and goes in a moment conflicted with all his ideas of physiology and psychology. One of the asylums Dr. Patterson cited, that at Longwood, reported in one year a phenomenal amount of "moral insanity." Probably "rum" would express all of it.

In a monograph by Despine, read a few years ago before the Academy at Paris, and for which a prize was awarded, the author pronounced all insanity as deep, ingrained immorality, ingrained by the patient himself, and held that insanity is not a sickness at all, but a disease of the soul.

Dr. Ray, the chief believer in "moral insanity," does not give the clinical history of a single case that occurred under his own observation at the Butler Asylum, Providence. Moral aberration was a matter of degree. There are persons who have a considerable amount of mental shrewdness, and yet whose moral nature is so perverted that they do not know right from wrong. The law puts such people into prison.

Referring to the subject of heredity, Dr. Gray said that persons who suffered from moral taint transmitted by parents might be held to be morally defective, but it was unjust to them and to the profession to regard them as diseased. The soul, he said, might be tarnished, but it could not be diseased, for what might be diseased would die.

Dr. Thompson, of Mississippi, made the point that moral insanity was believed in more formerly than it is now, and Dr. Ray has modified his statements in late editions of his own book.

Dr. Battey, of Georgia, said that in the asylums under his charge, where

there were twelve hundred patients, there had during twenty-one years been no case regarded as moral insanity.

Dr. Knight said that if the term "moral insanity" implied the perfect soundness of all faculties except the moral faculties, there was no such thing.

In reformatories there were, he said, perfectly healthy boys who would rather do wrong than do right. Punishment they seek to evade, but if it is applied it does no good. They sleep well and eat well, and their minds seem bright enough. It is doubtful if these persons were morally responsible.

Dr. Seguin, of New York, believed in moral insanity. In idiot asylums children were received who were worse than idiots. They had an inevitable habit, a necessary impulse to sin. They had no symptoms of idiocy. They were healthy in body and bright in mind. He told of a boy who had on twenty occasions shut himself up in a room and set fire to the furniture. He knew that he was doing wrong, but he had a necessary impulse to do it. The boy has been cured, and is now a perfectly good boy.

The origin of moral insanity among children was a want or, better, a need. This boy had a need to see bright things as some people have to speak constantly. This boy's insanity was a sort of sensory insanity.

Dr. Buck, of Canada, also believed in moral insanity. Two patients in his asylum were conspicuous examples of it. He had failed to detect in either any intellectual delusion, but their moral natures were so perverted that they could not live in society. One of these cases was a woman who was clever, neat, intelligent, and in perfect health, but she was subject to violent attacks of passion, and had excessively erratic tendencies. The other case was a man. His mind was sound enough so that he had accumulated a fortune, and he was perfectly healthy; but if at large would maltreat his family, and commit other acts, making his existence in society impossible. Dr. Buck believed there were many other cases in his asylum where the initial departure from health was in the emotional nature. A very marked departure of the emotional involves the intellectual nature. He held that a moderate moral aberration constituted criminality, while excessive aberration constituted moral insanity. The intellectual nature affects the emotional nature but slowly, while the emotional nature has immediate and tyrannical power over the intellectual nature.

Dr. E. M. Hunt, of New Jersey, presided over Section 5.

State Medicine and Public Hygiene was the topic under discussion, and the first paper read was by Dr. J. R. Black, of Ohio, the title of whose essay was the Relation of Heredity to Race Degeneration and Improvement. The author concluded that the more the race tended toward the primitive types, the better for the health of the people, because, in those times, when all were exposed to hardship and rough living, the sword of privation fell fatally on those who were weakly and undeveloped. If people afflicted with hereditary disease would refrain from perpetuating their species, the human race would soon become perfect as of old, but, unfortunately, the congenital desire was too strongly implanted in human nature to make such self-sacrifice possible. But, even with this drawback, by attention to the principles of health, by avoiding marriages with blood relatives, and by living temperately and decently, the degeneration now so marked in our population would be, if not entirely obliterated, at least checked in a gratifying and promising degree.

Dr. Comegys read a paper on State Medicine, which particularly dwelt upon the necessity of rigid legal restrictions as regarded admission to practice. The state should exercise over all physicians a supervision so careful that no unqualified person could by any possibility foist himself upon the community. In pursuing his subject he remarked that gentlemen following the profession of medicine were, like clergymen, virtually debarred from the field of politics, which he did not consider an unmixed evil, by any means.

THURSDAY, JUNE 7th. The treasurer, Dr. Atkinson, submitted the following report:—

The treasurer has the honor to report; that under positive instructions of the association the prize essay has been published at a cost of some six thousand dollars; this unusual outlay, in addition to the unusual volume of the Transactions, leaves the treasury in an exhausted condition, as it has practically given to each member nine dollars in value for five dollars received.

In this, his last report, after twenty-two years of service, it remains for the treasurer to thank the association for its long-continued confidence, and to regret that in leaving the treasury solvent he cannot leave a more abundant surplus. The amount in the treasury is now \$172.72.

Dr. N. S. Davis reported that but two prize essays had been presented, one of which was unworthy and the other came too late to be examined. It was voted that no prize be given.

At eleven A. M. Dr. Ezra M. Hunt read an address on Hygiene and State Medicine, which he considered of the greatest importance.

Dr. Squibb resumed his speech of the preceding day on the Pharmacopœia. He closed by stating that there were three courses for the association to pursue: First, to lay the whole matter on the table, leaving it exactly as it was, on the ground that the association was not necessarily involved in revising the Pharmacopœia at all; second, the association might make a Pharmacopœia such as it saw fit, allowing it to take its chances with others. He thought this latter plan would not create a Pharmacopœia which would be accepted by the army and navy. The third plan was for the association to appoint a committee to consider the matter in detail and report in 1878, on which occasion all the state societies should send their delegates thoroughly instructed as to their ideas on the subject.

Dr. H. C. Wood, of Philadelphia, expressed himself strongly against the revision of the Pharmacopœia. The fault lay not in the book, but in those who neglected their duty by failing to attend conventions, and neglecting other modes of improving themselves, and the world also. He expressed himself deeply grieved that the discussion of the subject had been the means of kindling ill feeling between certain members of the association.

Dr. Brodie moved to refer the whole matter to a committee of five.

Dr. N. S. Davis then took the floor, and made a speech in which he protested against the dragging in of this matter of discord, and warmly indorsed the remarks of Dr. Wood. In his opinion, such discussions tended to disruption and demoralization, and he hoped the association had heard the last of them. [Applause.] The only duty the association had to perform in the premises

was to consider a new Pharmacopœia, and to suggest improvements which would benefit the profession. Members should be imbued with that idea. It was a feeling that would be of gradual growth, and there was no real use of forcing the question upon the association just then. He moved that the whole matter be indefinitely postponed. The motion was carried amid loud applause.

The committee on nominations reported, for president, T. G. Richardson, of Louisiana; vice presidents, J. P. White, New York, Moses Gunn, Illinois, G. W. Russell, Connecticut, A. Dunlap, Ohio.

#### THE SECTIONS.

Section 1. Dr. H. A. Martin read a report on bovine vaccination. He thought state governments ought to keep stables for the production of the bovine matter. He had for several years maintained such an establishment without profit. He wished to create no sensation, but it was a fact that syphilis had been sometimes transmitted by humanized virus. The bovine matter insures absolute purity. During the great small-pox epidemic in Boston, in 1872-73, the city authorities undertook to use humanized virus, but there was so general protest that they were obliged to buy eighty-four thousand points of his bovine matter. He had known persons vaccinated with the humanized matter to have the small-pox, but he never had known of a person who was vaccinated or revaccinated with bovine matter to have the small-pox.

The paper was referred to a special committee consisting of Drs. Bowditch, Wheeler, and Wigglesworth to report to the committee on publication.

Section 3. Dr. S. D. Gross read a paper on pain. In the discussion which followed, the writer stated that the nervous fluid is precisely similar to, if not positively identical, with the electric or galvanic fluid, modified by the play of the vital actions which everywhere exist in the organs and tissues through which the nervous fluid circulates; that the fluid under consideration is generated by the brain, spinal cord, and nervous ganglia, and that the nerves are simply passive cords, ropes, or, so to speak, wires for the transmission of the nervous fluid; that pain is due immediately and directly to obstruction to the transmission of the nervous current, thus causing an accumulation of nervous fluid at the seat of the obstruction.

Dr. Marey, of Cambridge, Mass., read a paper on the subject of bandages.

Dr. Sayre exhibited a case illustrating reflex incoördination from genital irritation, the illustration being an idiotic little girl about twelve years of age, and described his mode of treatment in such cases.

Dr. S. J. Jones read a paper on Recent Advances in Otology, and was followed by Dr. Andrews, who gave an abstract of a paper going to show that incisions can be rendered painless by high velocities, illustrating his idea by a peculiar incisor of his own contrivance.

Section 5. Dr. Elisha Harris read a paper on the Results of State Legislation on Public Health.

Dr. Sutton, of Indiana, was called upon to give his experiences in dealing with trichinae. He advocated the passage of an act forbidding swine to run at large. In his town (Aurora) there was a very large distillery, where a great many swine and cattle were fed. Beneath their pens was an accumulation of filth which had been undisturbed for twenty years, and which was constantly

disseminating disease. The city council being selected by men interested in the maintenance of this disease-breeding establishment, it was impossible to procure the requisite legislation for its removal.

FRIDAY, June 8th. There was a good deal of routine business, and the election of officers, after which Dr. Singleton, of Kentucky, offered a series of resolutions, which were adopted, to the effect that the tariff on quinine should be abolished.

Drs. Woodward and Seguin proposed that delegates be sent to the International Medical Congress at Geneva to advocate uniformity of means of observation and records.

After the usual votes of thanks, and some remarks by the retiring President, Dr. Richardson, the President elect, was introduced, and spoke as follows:—

Gentlemen of the Association: In taking the chair which you have so generously assigned me, I have abundant reason to feel especially and profoundly grateful. In consequence of my former inability to attend the meetings of the association, except at long intervals, and the few other opportunities I have enjoyed of meeting professional gentlemen from the widely separated States of this vast republic, I am entirely unknown to all but a few of those whom I now have the honor to address. I cannot, therefore, look upon my elevation to this dignified position in any other light than as a compliment to the distant Southwest, of which I am a citizen. I thank you, then, in the name of the States composing this large and important section of the country, and more especially in the name of my dearly loved little Louisiana, who, having at length emerged from the thicket of briars and thorns in which she was for so many years entangled, is now arranging her disheveled hair and mending her tattered garments, in order that she may make a respectable appearance in the now—thank God!—unbroken national family circle.

Permit me also to say that not the least of my embarrassments in taking this seat arises from the acknowledged distinction with which it has just been filled by my accomplished predecessor. I cannot hope to emulate the dignity and grace with which he has presided over the meetings of the association: much less can I hope ever to attain an equal place with him in the hearts of the medical profession of the entire United States; but, gentlemen, I feel assured that the great generosity you have shown in placing me in this chair will not be found wanting in the hour of my trial, and that out of the shreds of my feeble and overtaxed abilities you will weave a mantle of charity with which to cover the shame of my many mistakes.

The association adjourned to meet at Buffalo, N. Y., on the first Tuesday of June, next year.

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#### MEDICAL NOTES.

— An exchange contains the account of a man suffering from acute articular rheumatism who was fatally poisoned by salicylic acid. To diminish the pain a subcutaneous injection of morphia was made, and four powders containing about ten grains each of salicylic acid were ordered to be taken at inter-

vals of an hour. Profuse sweating followed the exhibition of the first powder, and extreme weakness, which increased to such an extent with the second and third that the wife of the patient hesitated about giving the fourth, which was demanded by the patient. Directly after taking it intense headache and vomiting followed, the latter lasting through the night; then unconsciousness came on, accompanied by heavy groaning. The unconsciousness was broken once by the patient calling out "Head," in answer to his physician. In spite of all treatment the patient died forty hours after taking the first powder. There was no autopsy. It is not to be supposed that there was an inflammatory complication of the brain here; the symptoms rather pointed to poisoning, and a careful examination of the preparation of acid showed it to have suffered some chemical change which was indicated by its color and odor. Stricker's advice to examine the salicylic acid always, and use only the crystallized, is worth remembering.

— In a paper by John L. Cleaveland, M. D., on the Effects upon the Fœtus of Medicines given to the Pregnant Woman, published in *The Clinic* for May 19, 1877, the author arrives at the following conclusions:—

(1.) That certain remedies, potassium iodide, salicylic acid, and chloroform, may pass from the maternal into the fetal circulation.

(2.) The acute exanthemata, scarlatina, measles, small-pox, and perhaps vaccination, can be propagated by the mother to the fœtus. Whether syphilis passes from the mother to the fœtus, or *vice versa*, remains yet undecided.

The effect of maternal, mental, and emotional influences upon the vitality and development of the fœtus is undetermined.

As to the therapeutic effects of medicines upon the fœtus almost nothing is known. There is only one class of remedies that is administered with the belief or hope that they will have any effect upon the fœtus, namely, syphilis specifics, and the efficacy of these are stoutly denied by some.

Chloroform is known certainly to enter the fetal circulation, but it is not known to exercise any pernicious effects. Zweifel claims that jaundice may be caused. This, however, is not proved.

It has not been demonstrated that morphia passes into the fetal circulation, but clinical testimony seems to show that it sometimes does. Clinical experience appears to prove that in the hands of most practitioners, and in the vast majority of cases, opiates may be used with safety to the fœtus.

It appears, however, on the other hand, from the testimony of some observers, that the hypodermic use of morphia to its full physiological effect produces in the fœtus dangerous phenomena, cyanosis, impaired respiration, irregular pulse, contracted pupils, a disposition to sleep, and sometimes convulsions. It is of the utmost practical importance to us all that this latter point should be determined.

— Nilsson, the well-known soprano, has contributed £2000 to the Lady Augusta Stanley Memorial Institution for Trained Nurses in London, and has also consented to give a concert for the same object from which a return of £1500 is hoped for.

— Five well-known physicians of Paris, namely, MM. Regnaud, Dubois, Méranden, Cintrat, and Carrère, have died of diphtheria within a short time.

## LETTER FROM CHICAGO.

MESSRS. EDITORS, — The American Medical Association has come and gone. It was preceded by a meeting of the American Medical College Association, which perfected its organization and adopted its articles of confederation. The meeting was quite harmonious, and the general belief here was and is that the organization ought to be a useful one; yet there is a grave suspicion that, owing to many of the colleges having a grade of requirements so low that they will keep out of the association, while some have a grade so high that they will not enter it, it will accomplish nothing.

Following the college convention occurred the little meeting of medical editors. Nothing was done but the reading of an address by the president, Dr. H. C. Wood, and the slight discussion of it and the needs of our medical journalism by two medical editors,—one of whom said he had nothing to say,—and by two gentlemen not editors at all.

The attendance upon the American Medical Association was quite large, almost seven hundred delegates being present. The sessions were generally very harmonious, and a good deal of useful work has been accomplished. Everybody to-day at the adjournment seemed delighted at the result of the meeting. Occasionally a man has been heard to scold at some action in the general sessions or in some of the sections, but the complaints have been few and not loud. Dr. Sayre, for instance, laments that a vote was passed in the surgical section that in fractures of the long bones, the thigh particularly, shortening was the rule with any kind of treatment yet devised, because, as he claims, with the right kind of treatment shortening *ought not* to occur.

The success of the meeting was enhanced in no small measure by the sensible address of the president, Dr. Bowditch. Dr. Bowditch directed his attention not to the general interests of the profession unconnected with the association, but to the needs and interests of the latter itself. His suggestions for keeping the Transactions down to something like a manageable and useful size have met with great favor. His entire address, his whole bearing indeed, only added to the high opinion previously held of him by those who heard it.

Altogether, the most exciting event of the meeting was the discussion regarding the Pharmacopœia, by Drs. Squibb and Wood.

When the discussion began, most of the members were against the "proposed plan" and its author, but Dr. Squibb captured the convention. Everybody was struck with the candid, fair, and logical argument he read. His reply to the pamphlet of Dr. Wood, and his arraignment of the present plan of revision of the Pharmacopœia, was indeed a masterpiece. In one thing his lack of judgment was apparent. He might have known the association could not listen to a paper requiring two hours to read, when time would have to be allowed for a reply and other discussions. So he had to bear the misfortune of having his paper cut into three parts, two of which were read on respective days, and one omitted altogether. His personal appearance tends strongly to excite the sympathy of his hearers. We always feel a tender interest in the soldier with honorable scars of battle, and the scars on the face of the chemist tell of courage and work which make a hero.

Wood is by many years the junior of Squibb ; perhaps thirty-five years have not passed over his head ; and his speech, short and tempestuous, had all the vigor promised by his robust appearance. When the whole matter was postponed indefinitely everybody breathed easier ; nobody, Dr. Squibb declares, more so than himself. Indeed, he declared again and again that under the circumstances he would be best pleased with the dropping of the subject entirely. The feeling is general here that the thorough ventilation of this whole matter will be of great benefit on the forthcoming revision of the Pharmacopœia, and that therefore the profession ought to be glad the discussion has taken place.

You do not need to be told how your own Bowditch looks, but I am going to tell how the new president, Professor Richardson, of New Orleans, appears. Imagine a stout, straight, broad-shouldered man of say fifty, with a broad, high forehead, with short, brownish auburn and slightly curly hair ; with curly beard over the whole face, both hair and beard slightly sprinkled with gray ; with eyes that look rather open. He can make a good speech — he has made two ; one in the college convention and one just before the adjournment of the association, both of which made him many friends and admirers.

All the delegates the writer has heard speak of the matter have declared that the entertainments — the receptions — at the residences of our citizens have been the finest they ever attended anywhere at a meeting of doctors, that the local profession here have done well in providing for the association, and that Chicago is altogether the most extraordinary phenomenon they remember to have seen ; this statement must be allowed for in consideration of the fact that the ears of the writer are Chicago ears.

The excursion to Lake Geneva, Wisconsin, provided for to-morrow, will be attended by about two hundred. It bids fair to be *the* event of the occasion, so far as entertainments are concerned.

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JUNE 8, 1877.

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## REMARKS ON HYDROPHOBIA.

MESSRS. EDITORS, — Two recent numbers of the JOURNAL, May 10th and 17th, open with cases of hydrophobia : the former by Dr. J. C. Bartlett, of Chelmsford, and the latter by Dr. E. A. L. François, of Saugus Centre. The treatment was a fair average routine in such cases, but did not save the patients.

Dr. Bartlett laments the opprobrium that must befall the Massachusetts Medical Society for not “systematizing the knowledge we really have and thoroughly investigating the subject.” It seems to me that to “systematize the knowledge we really have” would imply that we *had* the knowledge of *correct treatment*, but without the method, hence the failures. Now the fact is, we have been in the dark ever since the disease was known, and we may as well lay the present system aside. It has not the merit of common sense. With your permission I will briefly “ventilate” my views.

I gather from observation and the remarks of the vulgar and the intelligent, in countries where dogs are treated humanely, on the principle of live and let live, *both* sexes are equally spared, and are “as thick as frogs in Egypt.”



During a residence of eleven years in Brazil I never heard of a case of hydrophobia, and pressing inquiries elicited what was regarded as a true solution of *rabies* in the dog. It was *our* inhumanity to the animal. Domesticated and domiciled as a true friend, we are regardless of his natural instinct. We destroy the female to an extent which causes an unnatural disparity of the race. In Brazil the mare is never ridden; it is considered *vulgar*. Thousands of them may be purchased for four or five dollars a head, but the horse brings ten to twenty times more. So much for taste. In Newfoundland dogs are abundant and both sexes are equally spared. A year's residence on the islands gave me no information of hydrophobia, and the same may be said of all other countries where the law of animal instinct is not thwarted or perverted under the ban of an ignorant and false modesty.

To add to our knowledge of the treatment of hydrophobia, we should commence with the dog. When the animal shows signs of the disease, he is killed and buried, and if he has bitten a few other animals they are hunted down and killed also, thus destroying the best material for investigation. Now let the Massachusetts Medical Society take the initiative and offer a suitable reward or prize to its members for investigations on the subject. So might the American Health Association, and other institutions. The fact is that the thing is attended with difficulties, and handsome inducements must be made properly to unravel the whole subject.

In the absence of any recorded treatment with success in cases, often so suddenly presented, as the two cited, there does not seem to be any hope. The treatment at most is only palliative. Any treatment should commence *immediately* after the sufferer is bitten. *Cauterization is a humbug*. It is never timely, and never can be. The virus has done its mischief in a few minutes, but a favorable prognosis, it seems to me, may be given by an antiseptic course. Alcohol in some form is a common agent in treating insect and serpent bites in all warm climates. I will state a case. My servant-man, in Brazil, was stung on the shoulder by a scorpion, probably dropping from some decayed wood which he was carrying. He was immediately in dreadful agony and frightened to death. I promptly saturated his shoulder over the affected and swollen spot with rum, and dosed him with it to stupefaction. Within half an hour he was in a sound sleep, and awoke therefrom well, the swelling disappearing as rapidly as it gathered. So in case of a person bitten by a mad dog, or supposed to be, I would saturate the wound with our best antiseptics and keep applying them, by means of saturated compresses, until healed; and as promptly I would dose the patient with milk-grog to stupefaction, and put him to bed under heavy and warm covering to promote perspiration. This treatment for twenty-four hours at least would seem sufficient as far as the bed is concerned, but a moderate use of the milk-punch should be continued until a sufficient time has elapsed to make all danger improbable. To the punch might be added a grain or more of some of the antiseptic salts now so much employed in practice. Prohibitionists, and perhaps the sufferers, might object to the alcohol. They can have it in small doses by the hypodermic process, or in lieu of that can use some other antiseptic. The aim is to mollify the poison or eradicate it from the system, and the use of

antiseptics, as we understand their action, is a common-sense way of treating hydrophobia or any other disease produced by the absorption of poison. Dr. François rightly used alcohol, and it is a pity that he did not carry it further. It seems to us that any attempt to administer it by the mouth, in extreme cases, is useless. Better to rely upon *alcoholic milk injections* repeatedly administered, until stupefaction is produced, and, above all things, to have pluck in doing it.

AARON YOUNG, M. D.

Boston, May 23, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 2, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	430	20.76	27.46
Philadelphia	850,856	271	16.56	22.88
Brooklyn	527,830	209	20.59	24.31
Chicago	420,000	129	15.95	20.41
Boston	363,940	137	19.58	23.89
Providence	103,000	35	17.67	18.34
Worcester	52,977	12	11.78	22.00
Lowell	53,678	21	20.34	22.21
Cambridge	51,572	11	11.08	20.54
Fall River	50,370	12	12.39	22.04
Lawrence	37,626	8	11.06	23.32
Lynn	34,524	11	16.57	21.37
Springfield	32,976	3	4.73	19.69
Salem	26,739	10	19.45	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The last regular meeting of the season will be held on Monday evening next at eight o'clock, at the rooms, 36 Temple Place. Dr. Knight will read a paper upon A Case of Anosmia following a Blow on the Head.

THE eighty-seventh annual meeting of the New Hampshire Medical Society will be held at Concord on Tuesday and Wednesday, June 19th and 20th.

THE first annual meeting of the American Dermatological Association will be held at Niagara Falls on the fourth day of September next. The titles of all papers to be read at any annual session must be forwarded to the secretary, L. Duncan Bulkley, M. D., not later than one month before the first day of the session.

BOOKS AND PAMPHLETS RECEIVED. — Tracheotomy in Diphtheria. By J. H. Pooley, M. D. (From the Richmond and Louisville Medical Journal.) 1877.

The Use of Uterine Supporters and the Specialty of Diseases of Women. By Clifton E. Wing, M. D. Boston: A. Williams & Co.

Proceedings of the Philadelphia County Medical Society in reference to the United States Pharmacopœia. 1877.

A fine steel-plate engraving of the late Dr. James Jackson. (For sale by A. Williams & Co.)

Review of Dr. Squibb's Proposed Plan for the Pharmacopœia, and Resolutions adopted by the National College of Pharmacy of Washington, D. C.

Twenty-Eighth Annual Announcement of the Woman's Medical College of Pennsylvania.

Metric System of Weights and Measures. From Hance Brothers & White, Philadelphia.

Alcohol as a Food and Medicine. By Ezra M. Hunt, M. D. New York: National Temperance Society and Publication House. 1877.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A CASE OF INTUSSUSCEPTION.<sup>1</sup>

BY EDWIN P. GERRY, M. D., JAMAICA PLAIN, BOSTON.

I WAS first called to see the patient, who was seventy-one years old, on the 29th of June, 1876, and found him suffering from acute pain in the abdomen, with some slight tenderness but no vomiting. Pain was referred to a point two inches below the umbilicus; at this point and to the right and left of it for a distance of two or three inches a tumor could be felt.

Treatment relieved the patient for a short time, but after a few hours the symptoms became so aggravated that Dr. H. A. Martin, of Roxbury, was called in consultation. After the patient began a second time to grow worse there was no doubt but that he was suffering from an obstruction of the bowels. Treatment was directed towards this obstruction and in a few hours completely alleviated this part of his trouble; relief came from stools produced by large enemata of soap-suds, castor-oil, and spirits of turpentine, freely administered, and from copious emesis, the patient vomiting gallons of a reddish-brown liquid in a few hours. He had been feeling poorly for three days before I was first called, having experienced colicky pains, for which he had taken a dose of salts, which had produced a number of loose dejections. After the patient had been relieved from the obstruction, he began to improve under a diet of milk and brandy; this continued until July 9th, when he had a bad day, and complained of cold hands and feet and an undefined feeling as if he were falling to pieces; this was temporary, and he improved until July 16th, sixteen days after his attack, when his pulse and temperature began to increase; this continued until the 21st, the pulse at no time numbering more than eighty beats per minute, and the highest temperature being only 102° F. On the morning of the 21st, three weeks after the commencement of his sickness, the patient passed a portion of his small intestine, which now belongs to the museum of the Harvard Medical School. The length of the intestine passed was 17½ inches; this, however, was only a portion of what came away.<sup>2</sup>

The specimen was not *inverted* as is usually the case; at its point of

<sup>1</sup> Read before the Norfolk District Medical Society.

<sup>2</sup> See the results of the post-mortem examination made by Dr. R. H. Fitz, of Boston, February 4, 1877, as appended.

separation it was gangrenous and worm-eaten in appearance ; it also showed traces of the exudation of lymph.

After the passage of the intussuscepted part the patient had a full operation from the bowels. From this time until August 4th, a period of two weeks, he improved, having daily dejections ; his appetite also returned. On this day there was considerable pain in the abdomen, together with such a degree of distention that at one time his breathing was quite seriously interfered with. Dr. Charles B. Porter, of Boston, was at this time called in consultation. On the afternoon of August 4th the patient began to vomit a thick liquid, which appeared to come from the stomach and upper part of the small intestines ; this relieved him. The vomiting, which appeared first at this time, was present more or less during the remainder of his life ; at times it would be suspended for two or three weeks, the longest period being three weeks. It was at intervals excessive, at one time occurring every few minutes for forty-eight hours ; the usual quantity vomited at any one time was about a quart, *six quarts* being ejected during twelve hours. The total amount could have been measured by gallons. That this is true will be seen when I state that the patient vomited sixty-nine times during his sickness. Now to what was this due ? That there was a catarrhal condition of the mucous membrane of the intestine was unmistakable. But what produced this catarrh ? Various explanations have been given, but I accept the following as the most satisfactory : A considerable time before the patient was taken sick there was an accumulation of faecal matter taking place ; this mass remained in one position until it had distended the part of the intestine it had occupied and formed a sort of pouch, and it was from this pouch, which from pressure lost a great part of its nervous tone, that this fluid came. That this was probably true will be seen from the fact that upon the whole the quantity gradually grew less, this diminution being perhaps because the intestine at this point was little by little contracting its calibre. Dr. S. G. Webber suggested that Bernard had found that cutting off the nervous supply promoted the exudation of fluid in the intestines. He also thought that sloughing or injury of the nerves which supplied the diseased part of the intestine might have the same effect. That the distention was considerable, and the loss of nervous force great, is shown by the fact that large quantities of fluid were ejected every week or two for a period of several months. I will state that for a few days before the patient first began to vomit a peculiar condition of things existed, namely, the abdomen began to swell and he had more or less pain ; but what was more noticeable was the disturbance produced by the movement of the fluid, which could be heard all over the room as it changed from one position to another, making the greatest possible noise as it went.

During the first part of November, Dr. Joseph Stedman, of Jamaica

Plain, who had charge of the patient during my vacation, noticed that when the pouch spoken of was distended by gas the part involved in the pouch appeared to be twisted, showing that it was shortened and probably adherent at certain points to the walls of the peritonæum.<sup>1</sup>

The cause of the invagination was probably an accident which happened to the patient some two or three months before he was taken sick. Some of his farm hands were baling hay and he was overseeing the work; they did it in a rather slow and bungling manner, and not as he had seen it done when he was a young man; he accordingly stepped up to the bale, seized a strip of the wood used for baling, and in his quick, powerful way showed them how to do it properly. Shortly after this he felt unwell and commenced to hiccough, and continued to do so for about four days. This was relieved by placing him flat upon his back and administering an anti-spasmodic. I also for a few minutes placed a light book upon the stomach. This seemed to relieve him at once. At this time I noticed that when he was flat upon his back the hiccoughing abated, with a return of the distress when he sat up. After staying in bed for twelve or fifteen hours he became entirely free from the trouble, which did not return until his last sickness.

With this history before us, may we not inquire if we had not a forerunner of what was to come? Flint says "that invagination may transiently appear, giving rise to no symptoms which persist." If this is so, might it not be possible, in view of what took place, that something of this nature happened, but that owing to position the intestine returned to its proper place, to remain there until three months later?

In watching this case, I have been interested in observing how much it has differed from other cases of the same kind, which have been reported, and I have had the thought impressed upon me that it is not always wise to trust to certain prominent symptoms which in books are described as necessary accompaniments of a disease. For instance, we find pain emanating from a fixed point, tenderness of the abdomen, hiccoughing, and vomiting, which Flint mentions as soon becoming, in the early stages, prominent and persisting symptoms, and almost always present. In what particulars is our case instructive? I think all will agree that we should expect to find the most urgent symptoms attending so grave a condition as intussusception, and that if, as in our case, we did not find them, we should be liable in part to forget that it was possible, for obstruction of the bowels is not an unusual occurrence, and intussusception, especially in the adult, is not found in one out of many cases of obstruction.

When my patient was first taken sick his symptoms pointed to obstruction. Intussusception was of course thought of, as were functional colic, acute peritonitis, and obstruction from various causes; as the

<sup>1</sup> See Dr. Fitz's post-mortem examination.]

case progressed the patient was relieved by treatment, and after he began to vomit and pass faecal matter he seemed to be on the high road to health; this was at a time when a most dangerous process was taking place, and that dreaded complication, gangrene, was separating the invaginated portion from the other parts. When I use the term "dreaded" I of course do not mean that gangrene was to be dreaded considering the condition of things which actually existed, — for this was the only way that recovery was possible, — but because such a condition would directly point to the disease from which my patient suffered.

It is to be noticed that no great increase in temperature was present, the thermometer at no time showing a temperature of more than 102° F.

In his anatomical diagnosis, Dr. Fitz mentions an annular stricture. In connection with this annular stricture it may be interesting to notice how the shape and condition of the faeces corresponded with the progress of the constriction. For a time after the accident occurred the character of the patient's dejections was quite natural; then he began to pass faeces of a ribbon shape, flat, and at times some of these ribbon-shaped pieces would be ten to twelve feet long; with this exception the appearance did not change to any noticeable extent for several months, the discharges being as a rule natural; he usually had two or three dejections a day; during the last part of his life he had fewer discharges, and it was noticed that at times the faeces resembled sheep manure, being made up to a great extent of small, hard, round lumps. It was, however, only a short time before his death that he experienced much pain when he went to stool; that he got along so comfortably and had such free discharges appears remarkable, when we consider the smallness of the orifice at the point of constriction, as described by Dr. Fitz.

For about a week before his death he would at times complain of great tenderness and pain in the left groin, at about the point where the constriction was found.

The swelling of the feet and the nephritis referred to by Dr. Fitz did not seem to play any very important part in hastening his end, although it necessarily was a factor; careful examinations of the urine showed nothing very abnormal.

The general condition of the patient for the last few days before his death was as usual, although it was observed that when he had a dejection he either vomited or had some nausea; still he was feeling pretty well, especially on the Sunday previous to his death, which occurred six days later. Nothing of importance occurred for the next three days of this week. On Thursday morning, at about two o'clock, he was seized with severe pain, which was relieved only by repeated injections of morphine; this pain was so severe that it appeared completely to prostrate

him; there was also a return of the vomiting; the pain and vomiting again came on during the afternoon and evening of Thursday, and persisted during the night and the next day; this abated towards the evening of Friday, and for the last forty-eight hours of his life the patient was without pain. He died quietly on the afternoon of Saturday, February 3d, after an illness of over seven months.

The immediate cause of death was probably the extreme exhaustion brought on by this sudden attack of pain and vomiting, although it is doubtful if he could have survived much longer, considering the condition of his intestines.

The treatment during this long period was directed principally to sustaining the strength of the patient, the obstruction having been removed during the early part of his sickness. The complication which troubled us the most was the vomiting, for the relief of which we tried almost everything that had ever been used; that which appeared the most successful was repeated feeding with small quantities of milk and brandy every half hour, as recommended by Dr. Morrill Wyman, of Cambridge, who saw the patient in consultation, the idea being to give the intestine just as little to do at any one time as possible, but yet to sustain the patient. The result was very satisfactory. The drawing for the accompanying cut was made by Dr. Wyman.

I am indebted to Dr. J. B. S. Jackson and Dr. R. H. Fitz for much valuable information in regard to the pathology of this subject, and to the gentlemen I met in consultation for their many practical hints for the conduct of the case.

*Autopsy.* The autopsy was made fourteen hours after death. Rigor mortis absent; the body anæmic and emaciated; feet slightly swollen; nothing abnormal about the external appearance of the abdomen. Head not opened.

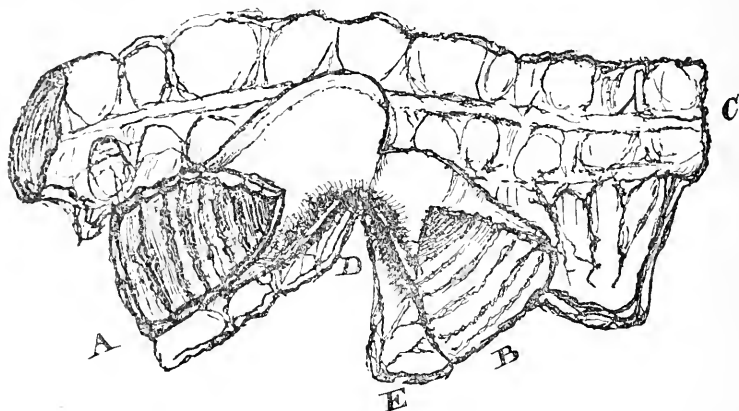
The pericardium contained a few drachms of clear yellow fluid. Heart small; cavities not remarkable; aortic and pulmonary orifices sufficient. The aortic and mitral orifices each presented a single fibrous vegetation, apparently old. The walls of the heart were of a reddish-brown color tinged with yellow, and somewhat opaque. The fibres generally were found to be in a state of fatty degeneration, containing also an abnormal amount of yellow granular pigment. The coronary arteries were healthy and the aorta remarkably free from any changes.

Both lungs were without adhesions, posteriorly œdematous, otherwise not remarkable. Spleen atrophied. The kidneys showed marked granular atrophy from chronic interstitial nephritis. Bladder healthy, prostate moderately enlarged. Liver small, with extensive fatty infiltration.

The abdominal cavity contained several ounces of opaque, yellow, puriform fluid, and the parietal peritonæum was sparsely spotted with

small brown specks, about a line in diameter, apparently old ecchymoses.

In the left lumbar region, beneath a portion of the small intestines, a coil of the ileum was found firmly and closely adherent to the descending colon, three and one third feet from the ileo-cæcal valve and a few



A, upper portion of intestine, enlarged, and walls thickened; B, lower portion of intestine; C, sigmoid flexure of colon to which the intussusception was united; D, point of intussusception; E, portion of mesentery.

inches above the sigmoid flexure. A bridge was thus formed, beneath which lay a portion of the small intestine not presenting any appearance of constriction. The adherent portion of small intestine formed a right angle, the upper arm being moderately distended, terminating in a globular, dilated portion of the volume of a large plum, separated from the lower arm by a constriction, the surface of which was quite opaque, as was the thickened peritoneal coat of the intestine in its vicinity. A portion of the left side of the omentum was adherent to the anterior surface of the constricted portion of the intestine as an elongated band. A fibrous cord, a line or two in diameter, extended downward from the anterior surface of the constricted portion of the ileum, and was continuous with an elongated epiploic appendage arising from the sigmoid flexure. A Y-shaped cord, ten inches in length and a line or more in diameter, extended upwards to the right among the coils of small intestine, the two legs of the Y being adherent to the upper part of the small intestine by broad attachments separated from each other by a distance of nine inches, the upper leg being two and one half feet from the pylorus. All the cords were of a purple color.

The intestinal constriction was six feet five inches from the pylorus and seven feet six inches above the ileo-cæcal valve. The mesentery presented a slight, funnel-shaped depression, directed towards the stricture where it was attached to the intestine; its posterior peritoneal surface was more thickened and opaque than the anterior surface, which



appeared relatively normal. The course of the vessels within it were not to be made out from the abundant fat tissue present.

The intestinal canal at the constricted portion measured from within nearly one inch in circumference, its diameter being estimated as one third of an inch.

On cutting through the stricture along the mesenteric border of the intestine, the internal measurement at the stricture was found to be seven eighths of an inch. Cicatricial tissue united the upper and lower portions of the intestine here, their mucous and muscular coats not being continuous but turned inwards towards the canal of the intestine. Looking from within an annular ulcer was thus apparent, completely encircling the tube, the base being formed by the cicatricial tissue mentioned.

All the coats of the intestine for some distance above the stricture were thickened, the muscular coat in particular, while below no alteration in them was observed. Small valvulae conniventes were present above and below the constriction.

The mucous membrane lining the globular pouch formed by the dilated intestine above the stricture was ulcerated to a moderate extent, in part thickened and roughened. A communication had been established between it and the descending colon, a half inch in circumference or about one sixth of an inch in diameter.

The stomach was largely distended with gas and contained a small amount of an opaque gray fluid. The small intestine immediately above and below the stricture contained a thick, opaque, yellow fluid. Scybala were found in the large intestine, between the cæcum and the fistulous communication with the small intestine; below the latter the large intestine was widely distended with gas.

*Anatomical Diagnosis.* Annular stricture of the upper part of the small intestine, with the loss of several feet of its length, and fistulous communication with the descending colon. Chronic peritonitis. Fatty degeneration of the heart. Chronic interstitial nephritis. Fatty liver.

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## NOTES ON SOME OF THE MOST FREQUENT FORMS OF SKIN DISEASE.<sup>1</sup>

BY F. B. GREENOUGH, M. D.

### NUMBER IV.

*Seborrhœa.* — In acne we have an eruption resulting from the occlusion of the sebaceous follicles; the functional activity of these glands may be increased without their becoming occluded, and this abnormal condition is known by the name of seborrhœa. When this exists we

<sup>1</sup> Continued from page 433.

find that the sebaceous matter being secreted in greater quantities than usual, it collects on the skin about the opening of the gland unless it is washed or rubbed off as fast as secreted. When the secreted sebum is in an oily or semi-fluid form, it will merely give the skin a shiny, greasy appearance, but when it is thicker, owing for one thing to the admixture of epithelial cells, it will be seen on the cutis in the shape of dirty whitish or yellowish crusts. This occurs most frequently on the scalp, and in the great majority of cases in infants, especially quite young infants. I have noticed that babies who have little or no hair are much more liable to be troubled in this way than those whose scalp is furnished with an early growth, and suppose this to be due to the fact that when each hair follicle has a hair growing from it, the sebum performs its natural function, namely, to lubricate and keep the hair moist and soft, whereas when the hair is not yet developed the secretion of the sebaceous gland must collect at the orifice of the follicle from which it is secreted, unless removed by washing, brushing, etc. This collection of sebaceous matter is found chiefly upon the scalp, and the appearance of a child's head affected with *seborrhœa* is briefly as follows: a continuous crust, varying in thickness according to the severity of the case, is seen covering the top of the head from the occiput to the limit of the hair follicles on the forehead. It is of a dirty yellowish color; in some cases, where the child has been exposed to much dust and dirt, being almost black. It can easily be picked off with the finger-nail, and the skin under it will usually be found to be normal, although at times it may be slightly congested. A piece of this crust rolled between the finger and thumb will crumble up and leave a greasy look on the fingers. There is nothing brittle about these crusts, such as is found in scabs resulting from the coagulation of pus and serum. Under the microscope they will be seen to consist of fat globules and epithelium. In many cases of *seborrhœa* of the scalp in children this condition is due not entirely to an abnormal increase of the secretion of the glands, but also to a neglect of proper care and cleanliness on the part of those having charge of the child; and in some cases this latter is without doubt the only cause, there being an idea, especially amongst our foreign population, that the removal of this "milk crust" is injurious to the child. Not unfrequently the accumulation of dried sebaceous matter acts as an irritant, and calls forth an eczematous eruption of the scalp to complicate matters. This will be more appropriately treated of under the head of *Eczema*.

Occasionally, instead of having a continuous crust covering the upper part of the head, we find two or three or more patches on different parts of the scalp and sides of the head; these are round or oval, and vary in size from that of a nickel cent to a silver dollar. The character of the crust is the same as when the whole scalp is affected. Simple

seborrhœa of the scalp could not very readily be confounded with any other affection of that region. The fatty character of the crust, the fact of its being confined to that part of the skin where the hair follicles are developed, and that the skin under it is natural, or perhaps slightly congested, would make the diagnosis a clear one. With regard to treatment, the first indication is of course to remove the crust, and this is best done by means of a poultice of flaxseed meal, the emollient power of which may be increased by pouring over it a little olive or cod-liver oil. One night's application will usually suffice; in the morning the crust may be washed off with soap and warm water, and in the majority of cases an occasional washing will prevent its re-forming. When, however, the secretion of the follicles continues to be excessive, the head may be washed twice a week with the German soap, and a lotion of glycerine, bay-rum, and water, with a little carbolic or tannic acid in solution, may be applied with a sponge or soft brush. When seborrhœa exists on a scalp where the hair is much developed the crusts should always be removed by washing and brushing, and never by means of a fine-tooth comb, and the same may be said in general of all troubles of the scalp.

Although very much more frequent in children, seborrhœa of the scalp is found at times in adults. In the comparatively few cases that I have seen the trouble was limited to one or more separate patches, and did not cover the whole scalp. The treatment is about the same as in the case of children, except that where the hair is thick or long the crusts can be softened down easier by rubbing oil into them than by means of a poultice. The affection will also be found to be more unyielding to treatment, requiring usually the use of some of the preparations of tar, and indications for tonic constitutional treatment are apt to be found.

There is a modified form of seborrhœa which is very often seen in adults, and is by some authors described under the name of *pityriasis capitis*.

In these cases there is a great deal of epithelium mixed with the sebaceous matter thrown off, and instead of forming an adherent crust the whole of the scalp is seen to be covered with grayish furfuraceous flakes or scales which will come off at the slightest touch, and which are found abundantly scattered through the hair, to say nothing of the coat collar or dress of the patient. These flakes consist of sebaceous matter and epithelium, and are popularly known as dandruff.

This condition of the scalp, besides being very annoying in causing the head to look untidy and ill-cared for, will in time produce baldness, or at least thinness of the hair. According to the authors, this is one of the most frequent causes of early loss of the hair. With regard to diagnosis, some slight cases of psoriasis of the scalp might be

mistaken, perhaps, for this form of seborrhœa, or *vice versa*. But in psoriasis the scales will be more abundant and will adhere much more firmly to the scalp; they will not give the fatty feeling to the finger, when rubbed up, that the flakes of dandruff do, and some of them, at least, will have the peculiar glistening appearance characteristic of psoriasis. There will usually also be found a line of congestion at the margin of the hairy scalp on the forehead and temples in cases of psoriasis, and generally there will be patches seen elsewhere on the body, or a history of the previous existence of such.

In cases of eczema capitis, after the acute symptoms have subsided, the scalp will be in a condition much resembling this form of seborrhœa; in fact it has seemed to me that the one sometimes runs into the other. As long as there is any exudation of serum the case is of course eczema, and evidences of the eruption having extended beyond the hairy scalp will generally be found, especially about the ears, behind which the skin will be seen to look red and shiny.

With regard to treatment, the patient should be informed that to insure a cure he must make up his mind to follow the course prescribed, thoroughly and regularly. The head should be shampooed twice a week with the *tr. saponis viridis*, and when possible it is best to have this done by a professional hair-dresser, who should be instructed to be very thorough in washing the lather off in several fresh waters, as unless this is done the German soap will dry the hair too much. Even with this precaution it may be necessary to apply some oil to the hair after it has been rubbed quite dry. Fresh, sweet almond oil is a good lubricator, or a mixture of castor-oil and alcohol (they form a perfectly smooth mixture) may be used. The dandruff should be brushed out of the hair, not combed, and a solution of oil of cade in oil or alcohol, according as the hair is very dry or not, applied to the scalp with a soft brush or sponge, the hair being parted with a comb in different directions, and the application made to the scalp at the part. When the amount of dandruff is not excessive, or in cases where the oil of cade is objected to, a solution of carbolic acid, gr.v. to ʒi., in glycerine or alcohol may be substituted.

Where the hair is coming out, or has already become thin, on the days when the shampooing and application of the oil of cade does not take place, a stimulating lotion may be applied. The washes most commonly used contain tincture of cantharides, tannin, or quinine, with alcohol, brandy, or bay-rum.

Seborrhœa is also found on the face, and more especially about the nose and the upper part of the cheeks. In some cases the affection is so slight as hardly to warrant its being considered pathological, such patients having what is called a fat or greasy complexion.

In other cases, however, the secretion is abundant enough to col-

lect on the skin small, fine flakes, which at a short distance give the appearance of the nose and cheeks having been sprinkled with a little sand. The ducts of the follicles are seen to be large and distended. A certain amount of congestion is found in some cases, and in such we see red spots or patches with little dry flakes scattered over them. Where this is much developed it gives a rough form of a butterfly on the face, the bridge of the nose representing the body, and the wings extending on each cheek under the lower eyelid. The term *seborrhœa congestiva* has been very appropriately applied to this form of functional sebaceous trouble, but it has also been given to a much more serious and rarer disease, *lupus erythematosus*, which, although commencing usually as an affection of the sebaceous glands, is a disease *sui generis*, resulting in structural changes in the cutis. The diagnosis of *seborrhœa* of the face is usually clear, but in cases where the skin is washed frequently the sebaceous matter may not be seen, and in the congestive form in such cases we should only see a few spots of congestion, the exact nature of which might be puzzling. The skin will, however, have a greasy appearance, and the situation of the redness will be suggestive. The absence of inflammatory pimples will exclude *acne*, and that of distended capillaries *acne rosacea*, although it must be borne in mind that *seborrhœa* is not unfrequently accompanied by or complicated with these efflorescences. The fact that it has been gradually developed will prevent confusing it with the acute facial erythemas. The treatment will depend on the severity of the affection. In the simple, non-congestive form the occasional use of German soap, followed by an astringent or carbolic acid lotion, will prevent the manifestation of the affection and in time correct it. Where there is some congestion the oils of tar may be applied on retiring and washed off in the morning.

Although perhaps hardly coming under the head of skin disease, the sulcus behind the *corona glandis* may be mentioned as a locality where a superabundant secretion and collection of sebum is very apt to take place, and here, as on the scalp, the lack of proper cleanliness may be the chief if not the sole cause. In cases of congenital *phymosis* especially is the accumulated sebaceous matter likely to set up a *balanitis*. Proper washing, in case of *phymosis*, by means of a syringe and the use of an astringent lotion will be all the treatment requisite.

From my list of the first five thousand cases of skin disease observed at the Boston Dispensary it appears that three hundred and seventy-one, or 7.40 per cent., were cases of *acne*, and forty-five, or nine tenths per cent., cases of *seborrhœa*.

This latter number does not, however, by any means give the true proportion of cases of *seborrhœa* seen, as only those cases where the disease existed uncomplicated were entered under that head, all of the

many cases of seborrhœa of the scalp in children, where eczema was found coexisting, being classed with the eczemas.

*Milium.* — There is a slight affection of the sebaceous follicles of which it may be well to speak, as it sometimes develops to such an extent as to call for treatment, especially in the case of ladies who are careful of their complexions. I refer to the small collections of sebaceous matter known as milium. These are small, round bodies about the size of a pin's head, found chiefly about the cheek-bone and eyelids. They are very superficial, so much so that the layer of epithelium which covers them is transparent, showing their color, which ranges from white to a pretty decided yellow. When abundant they give a rough look to the skin. They probably result from a sebaceous follicle whose opening has become obliterated, and whose glandular structure has ceased to carry on its function. The contents are quite hard, and different from that of a distended but still active gland. On the skin of the penis, especially near the root, they are pretty nearly constant, and in this situation they attain the size of a mustard seed, and here also they occasionally set up inflammation, producing quite a large and sore pimple. On the face I have never seen acne due to these bodies. To remove them the epithelial covering should be divided (a sharp cataract needle is very handy for this purpose) and then the little mass should be squeezed out. As a rule they do not fill up again; if they should; a sharp crayon of lunar caustic applied to the cavity after the contents have been removed will prevent recurrence. It should be remembered when removing them for the purpose of improving the complexion that a little blood will probably settle in the cavity left, and for a day or two be more of a disfigurement than the original trouble. The constant and energetic use of German soap will also remove them, when, as is sometimes the case with ladies, even a slight cut is dreaded.

(*To be continued.*)

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## A CASE OF SUDDEN DEATH AFTER EMBOLISM OF THE AXILLARY ARTERY.

BY H. R. HOPKINS, M. D., BUFFALO.

At midnight of February 16th I was called in great haste to see G. N. W., a prominent business man, who had been confined to his house for eight days previously with a slight pneumonia of the left lung, from which he was rapidly convalescing, having on the previous day a normal heat, pulse, and rate of respiration, and nearly normal condition of lung.

On reaching the bedside I found the patient and his family in great alarm, all thinking him dying. His wife told me that he had seemed

unusually well during the afternoon and evening, had retired at ten, and that about midnight she was awakened by his irregular breathing, and found him greatly oppressed for breath, and pulseless. She had been vigorously at work applying external heat and counter irritants with brandy and ammonia internally. W. seemed to me to be suffering more from fright than anything else. He said, "I am dying, for my right arm is already dead." Upon examination I found the right arm cold, in spite of hot bottles and flannels, without pulse at wrist, elbow, or axilla, and the whole limb of a peculiar shrunken or collapsed appearance. The pulse was distinctly felt in the right carotid and temporal arteries, and also at the left wrist, and was steady and regular, but a little soft, at eighty-six per minute. I diagnosticated embolism of the right axillary artery and tried to quiet my patient's alarm. Not succeeding entirely in my attempt, at about four A.M. I advised consultation, and Dr. George N. Burwell met me and concurred in my diagnosis.

During the day following W. complained a good deal of pain, numbness, and tingling in the arm, also of pain like dyspepsia in the region of the stomach, and of general restlessness and prostration. The abdomen was largely distended with flatus, but not tender. Under the use of opiates and stimulants he rallied during the evening and night, and on Sunday, the day following, was in every way comfortable. The circulation was restored to the right arm, so that the pulse could be felt at the wrist, the temperature and pulse were normal, and the respiration during sleep or quiet was twenty-four per minute. He was clear-headed and hopeful.

At noon Dr. Burwell, by appointment, saw him with me, when we found the improved conditions of the morning still more decided. We agreed that, so far as we could detect, the functions of the heart, lungs, and nervous system were fairly performed.

We listened to the heart, and both heard the two sounds with moderate distinctness, and neither detected any unusual sound. At three o'clock of that afternoon I was summoned in haste and found my patient dead. I learned that he had continued comfortable in every way, that at three o'clock he took a glass of champagne and said pleasantly, "Now I will turn over and have a good nap," but before his son could get round the bed to pull a pillow from under his right arm, so that he could turn, he threw his head back, gasped, and died.

There was no convulsion and no struggle for breath, and when I reached the house, ten minutes later, there was no capillary or venous congestion.

Post-mortem examination could not be made.

## RECENT PROGRESS IN SURGERY.

BY J. COLLINS WARREN, M. D.

*Transport of Sick and Wounded by Pack Animals.*<sup>1</sup> — The subject of the transport of sick and wounded by pack animals has latterly attracted much attention in the army, owing to the frequent and difficult campaigns of late years against the Indians. A number of reports on the devices employed during the various expeditions have been received at Washington, and these have been embodied in a report which gives at the same time much valuable information on the means employed by other nations to transport the wounded from the battle-field. The circular is elaborately illustrated, and is a fitting supplement to the very valuable report on the transportation of wounded by rail which we have alluded to in a previous report.<sup>2</sup>

The great difficulties with which we have been obliged to contend in our Indian campaigns have placed the ambulance service on a totally different footing from that adopted by European countries. Our expeditions have penetrated unexplored regions, the engagements have taken place in situations altogether inaccessible to wheeled vehicles, and not infrequently it has been found necessary to rely upon such expedients as can be improvised while on the march. Under these circumstances our medical officers have been obliged to rely on their own ingenuity or to follow the example of the savage and adopt such rude devices as are employed by him. "The introduction of measures tending to the establishment of an ambulance system in the United States army is of recent date, yet it has been acknowledged by the most competent foreign authorities that towards the close of the war our sanitary field service had attained a thorough organization." During this period a number of inventions were forced upon the medical department, and many European methods were tried, but they failed to meet the necessities of our campaigns, in the latter case chiefly on account of the difficulty of providing animals trained to carry them.

The material required in a complete system of army hospital transport is classified by Dr. Otis as, (1) stretchers or litters carried by men, (2) litters wheeled by men, (3) conveyances borne by animals (litters, cacolets), (4) conveyances drawn by animals (ambulance wagons). Dr. Otis thinks it is not improbable that the hand-stretcher will be perfected to serve as a uniform means of support in almost all military exigencies for patients who require transport in a recumbent position. "Eventually, it will probably be so constructed as to answer

<sup>1</sup> Circular No. 9. War Department, Surgeon-General's Office. Washington, March 1, 1877. A Report to the Surgeon-General on the Transport of Sick and Wounded by Pack Animals. By George A. Otis, Assistant Surgeon, U. S. Army.

<sup>2</sup> The JOURNAL, December 25, 1875.



not only as a litter to be carried by men, but as the permanent couch for the soldier from the moment he is disabled until he reaches a fixed hospital, having such adjustments that it may be placed on wheels and drawn by men, or be carried by pack animals, or laid on springs, or swung in special ambulance wagons, supply wagons, or other wheeled vehicles drawn by animals, or transported by rail or water." The hand-stretcher will thus come to be regarded an implement as essential in the sanitary outfit as the musket and spade in military operations.

As early as our Florida campaign and during the Mexican war wounded were conveyed from the field by the ordinary single and double horse-litter. During the war of the Rebellion attempts were made to introduce the very ingenious and useful cacolets and double litters employed in the French and English armies in the Crimea, and subsequently by the French in the Italian campaign. They have been used also by Spain and Portugal. The Italian medical inspector, De Cortese, reported most favorably upon their utility in the rocky defiles and narrow wooded paths of the Tyrol. The European cacolets and litters, are slung from the sides or carried upon the backs of trained mules. When the latter were not to be obtained the system failed, as in India during the Sepoy rebellion, and in New Zealand. In Mexico the French were provided with trained animals and could use their litters, which on that occasion were an adaptation of the ordinary hand-stretcher to the purposes of a single-litter mule conveyance, while the Austrians, relying upon mules picked up in the country, derived little benefit from their litters. Dr. Otis thinks that if means could be devised to secure such stretchers on pack animals without pitching them so high as to endanger the patient and encumber the animal, such arrangement would be the simplest and best. In our late war these litters were found useless for the same reasons that had obtained elsewhere. Provided mules of sufficient strength and docility can be procured, with attendants capable of training and harnessing them properly, of placing patients on the conveyances and taking care of them, the value and importance of these litters and cacolets is conclusive. They can be packed compactly and easily carried on the march, the mules conveying supplies or doing other field service when not required for sick-transport. They can be adapted to the roughest service. Moreover two wounded men can be transported by one mule, only one muleteer being needed for every two mules. The advantages of such a method are considered so obvious that Dr. Otis would recommend its adoption in our army, notwithstanding the difficulty in obtaining suitable animals and men properly instructed to train and take care of them. The form of pack-saddle preferred is the *aparejo*, drawings and a full description of which are given.

The mode of transporting the wounded in our Indian campaigns is

an imitation of a litter described by the earliest travelers among the North American Indians. The *travail*, or one-horse litter, consists in its simplest form of two long poles, which serve as shafts for the horse at one end, while the other ends rest upon the ground. Two cross bars at suitable distances unite these poles and thus form the frame for a litter. A canvas blanket, buffalo robe, or network of raw hide forms the bed of the *travail*. The elasticity of the poles takes the place of springs, and renders the jolting less painful than might be expected. Indeed, men transported in this manner have preferred their conveyance to the ambulance wagon. A simple arrangement enables the litter to be separated from the shafts if necessary. Over rough ground and in crossing streams the rear ends of the poles can be raised by men detailed for the purpose. Its simplicity of construction, the facility of transportation, the regularity of its motion, its adaptability for any kind of ground, and the fact that it requires but one animal and one man to work it are advantages that have made it popular with our army surgeons, who have been obliged, from lack of an organized system, to devise such methods as circumstance permitted. Some of the severest injuries, as gunshot fractures of the thigh and wounds of the viscera, have not prevented patients from being conveyed in this way with comparative comfort. The two-horse litter is apparently a much more agreeable method of transportation. A similar litter is used, but with longer poles, one horse being harnessed in front and the other behind. Each horse requires two men to guide it. Two animals and four men are therefore necessary to transport one patient. This litter is far more difficult to manage than the *travail*, and is attended with some dangers to the patient from which the other is free. They have both been extensively used in our campaigns. Mules are easily trained to drag or carry these litters, and the ordinary pack mules are employed. He goes out packed with commissary supplies and returns generally with a litter. These rude expedients are preferred by General Sherman to the various inventions. He says: "This matter, as well as others of a similar nature, may well be left to the ingenuity of the troops interested, who are fully qualified to take care of themselves in all the contingencies of war." In this opinion Dr. Otis does not coincide. In the Modoc campaign the ordinary methods were found unsuitable, and a form of mule litter was devised by Assistant Surgeon H. McElderry, and proved serviceable. The litter was carried upon the mule's back lashed to the *aparejo*. It requires no special training to accustom the mule to its use; its width is such that the animal can traverse the narrowest defiles and ledges, or crowded roads, without danger, an advantage which the European litters, carried at the side of the animal, do not possess. The litter can be folded so as to permit a load of grain to be packed upon it. An adjustable iron support enables the surgeon to

slung a fractured leg in suitable apparatus, and a simple device permits one to cover the whole with an awning.

Some such contrivance as this would seem to be admirably adapted to the exigencies of our western campaigns.

The reader will be well repaid by a careful study of Dr. Otis's report, which cannot fail to be of great value to army surgeons, and, like all that emanates from the distinguished writer's pen, of great interest to the profession at large.

*Soft-Rubber Tracheotomy Tubes.* — This form of tube has been introduced in England lately by Mr. Marrant Baker, the advantages claimed for it being its flexibility and the non-irritating character of the material. Ulceration is thereby avoided, and the secretion from the trachea is less than when other tubes are worn. The tube is single, and must therefore be removed from the trachea to be cleansed. Its non-irritating character, however, renders this less often necessary, and, although flexible, it slips back quite readily into the trachea. It is customary with those who employ this form of tube to substitute it for the rigid tube on the fourth day. In a recent society report in the *Lancet*,<sup>1</sup> Mr. House reported the case of a patient who had been tracheotomized ten years previously for syphilitic disease of the larynx, and had since worn a tube; for seven weeks he had been wearing a soft rubber tube, and on the day of entrance to the hospital had, while endeavoring to remove it, torn the shield from the tube, which slipped back into the trachea, and was eventually with difficulty extracted from the right bronchus. The red rubber, of which the tube was composed, was found to be quite rotten. It was evident that the wound had formed an annular contraction around the tube sufficient to resist the efforts at withdrawal by traction on the shield. Improvements have lately been made to obviate these dangers by the introduction of canvas between the layers of the tube to strengthen it. It is considered important to use the "No. 1 red rubber." Rubber can easily be made brittle during the process of curing, but if properly prepared may retain its elasticity for two or three years. Mr. Howard Marsh had recently a case which showed the advantages of the soft tube, symptoms of commencing ulceration of the trachea disappearing on the substitution of a soft tube for a metal one. A number of cases of separation of the tube, have, however, been reported, and although this catastrophe has been caused by the use of improper material in the manufacture of the tube, the possibility of the occurrence will probably stand in the way of its general adoption by the profession. A case was recently reported at the Medical and Chirurgical Society,<sup>2</sup> where a silver tube had become detached from the shield and had slipped into the trachea. On removal a soft rubber tube was intro-

<sup>1</sup> The *Lancet*, April 7, 1877, page 495.

<sup>2</sup> British Medical Journal, May 26, 1877.

duced, but it partially collapsed, and, being choked with mucus, and air being driven into the cellular tissues of the neck, it had to be replaced in three or four hours by a metallic tube, which gave immediate relief.

We understand that Codman and Shurtleff have samples of this form of tube.

(*To be concluded.*)

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## ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE society met to hold its ninety-sixth anniversary in the hall of the Lowell Institute, at twelve M., on Tuesday, June 12th. The president, Dr. Cogswell, occupied the chair.

Dr. John M. Crocker, of Provincetown, read the first paper, on Erysipelas and Puerperal Fever. The reader stated that he would not attempt to refute the testimony of physicians that in an epidemic of erysipelas puerperal fever is more likely to occur than at other times, but he was inclined to think that in many epidemics of erysipelas puerperal fever does not occur epidemically or sporadically, and that where the two maladies do coexist, unmistakable evidence of the presence of some septic material other than erysipelas may often be discovered. It is very desirable to know the connecting link — the essential element — in the production of child-bed fever. But though much has been written on the subject we seem to be no wiser than formerly as to what this element is. The reader reported a series of cases of erysipelas as recently observed by himself in a town at the extremity of Cape Cod, not in his view particularly favored in its sanitary condition. During this time several cases of confinement were attended by himself, and none of the patients were attacked with puerperal fever. A similar immunity from puerperal fever attended his patients who were confined while an epidemic of scarlet fever was prevailing.

In the discussion which followed the reading of the paper, Dr. Cornell remarked that he did not suppose erysipelas had much to do with the causation of puerperal fever, and that many of the diseases which we regard as contagious are not so much so as we consider them to be.

Dr. Osgood said that in 1835 he had three fatal cases of puerperal fever in the course of three weeks. Erysipelas prevailed at that time.

Dr. J. B. S. Jackson had no doubt that there is some connection between the two maladies under discussion. In his view we should not attend a case of childbirth if at the same time we have under our care a case of erysipelas.

Dr. John H. Gilman, of Lowell, read a paper on Diphtheria. He reviewed the history, symptoms, pathology, sequelæ, etc., of the disease, and stated that he regarded diphtheria in its primary stage as a local disease, infecting the system by the absorption of poisonous or putrescent matters from the throat. Our hope of controlling the disease is to observe and treat it early. And the importance of topical applications to the throat in the early stages of the exudation was insisted upon. If the disease extends to the larynx and severe dyspnœa ensues, tracheotomy is to be employed as a last resort.

Dr. T. B. Curtis in commenting on the paper said that the most successful results in tracheotomy in diphtheria had been obtained in Paris. There it is performed early, and not as a last resort, to rescue the patient from consummated asphyxia.

Dr. Bronson said that he had recently listened to a discussion in which very different views from those advanced by the reader were held by the participants. Our treatment of the disease will be largely influenced by our belief as to whether it is a local or constitutional disease *ab initio*.

Dr. Chenery, of Boston, stated that in an extensive epidemic in Maine, in 1862, he had treated nearly one hundred and fifty cases of diphtheria, and that nearly all recovered where the patients had been previously robust and were seen early. He gave the hyposulphite of soda in small and repeated doses. He further stated in reply to questions that they were not cases of tonsillitis, but to his mind cases of true diphtheria.

Dr. Clarke, of Cambridge, said that he had tried Dr. Chenery's treatment, as reported in the JOURNAL some time ago, in a dozen or more cases, and had found it to be no more satisfactory than any other. A large proportion of his cases in which he employed it had died.

Other gentlemen referred to the difference between diphtheria and membranous croup, the one being a constitutional disease attended with prostration, the other an acute disease of a sthenic inflammatory nature.

Another said that he always found an increased temperature in the early stages of diphtheria, and so tried to abstract heat.

Dr. W. W. Eaton read a paper entitled Alcohol, its Use and Abuse in Disease. It was in the main a protest against free stimulation in acute disease. Some of the author's conclusions were: That alcohol is in no case a food for the body; that continuously and largely given it destroys the appetite, produces torpor, prolongs febrile debility, and protracts the crisis; that sparingly and judiciously given in some critical states of acute disease, in anæmia and weakness of the heart, it is often beneficial; that it sometimes stimulates the appetite and aids assimilation; that it ranks with the poisonous drugs, and should be prescribed with like caution.

Dr. Bowker indorsed the paper as to the uselessness of alcohol, generally, in advanced stages of typhoid fever.

Dr. Garland, of Boston, criticised the reader's statement as to the physiological action of alcohol. Its primary as well as its secondary action should be considered. The carbonic acid eliminated by the lungs and the urea excreted by the kidneys are diminished under the administration of alcohol; so that it does not favor retrograde metamorphosis. Its excessive use does favor waste, but not physiologically. If taken in excess on an empty stomach it causes a chronic gastric catarrh and deranges the secretory power of the stomach; food is not properly digested, and there is malnutrition of the body.

Dr. George M. Garland, of Boston, in a paper on Cell Emigration and its Relation to Inflammatory Processes, presented a careful *résumé* of the views of the leading German pathologists.

Dr. Samuel W. Torrey, of Beverly, read a paper on Intra-Uterine Injections in Post-Partum Hæmorrhage. He considered at length the use of the

solution of perchloride or persulphate of iron for the arrest of post-partum hæmorrhage, and mentioned the dangers which attend the employment of the agent. He thought its efficacy due to its constricting action and not to its coagulating properties. If we could find an injection which would constrict and not coagulate, we should get rid of the principal source of danger which attends the employment of the iron solution. Such an agent is found in Churchill's tincture of iodine, and its use has been recommended by eminent practitioners in New York and elsewhere.

Dr. William P. Bolles, of Dorchester, read a communication on Splints for Colles's Fracture. He exhibited a large number of the various forms of splints that have been devised for the treatment of this fracture, and also a splint of his own invention, curved to fit accurately the spiral curve of the fore-arm. He reported several cases of very satisfactory results from the use of his splint, and showed a number of patients with the splints applied.

Dr. W. Symington Brown, of Stoneham, reported a very interesting case of skin grafting, and exhibited the patient. A young lady met with the entire loss of her scalp in September, 1872, by having her hair caught in a revolving belt. The scalp was replaced by one of the workmen, but subsequently the torn parts gradually shriveled and were cut away. In May, 1873, Dr. Brown began to graft, and during the succeeding three years over thirteen hundred different grafts were taken from one hundred and eighty different individuals, and as each graft was cut in two, two thousand six hundred pieces of skin were applied. The patient has had three attacks of what appeared to be pyæmia. The entire scalp, excepting a small space over the left eye, has healed. The torn eyelids still remain raw, but it is hoped that ere long a plastic operation may cause them to heal.

On Wednesday morning the society reassembled at the Lowell Institute. After the reading of the records, the action of the board of trial was confirmed, and it was voted, in accordance with the by-laws, that Drs. S. M. Gale, S. Aiden, C. T. Hubbard, and C. A. Wheeler be and are expelled from their membership of the Massachusetts Medical Society.

The secretary read the names of fifty-one Fellows admitted since the last annual meeting, and of seventy-four whose deaths had been reported. The treasurer read his report, and the reading of papers was then resumed as follows : —

Dr. Edward Wigglesworth, of Boston, read extracts from the reports from the district societies. They were (1.) From Franklin District, by Dr. E. R. Campbell. (2.) From Hampden District, by Dr. F. W. Chapin. (3.) From Middlesex East District, by Dr. F. Winsor. (4.) From Suffolk District, by Dr. T. B. Curtis.

Dr. Henry W. Dudley, of Abington, then presented a paper on Endometritis and its Treatment by Scarification. To Dr. E. D. Miller, of Dorchester, a fellow of the society, belongs, in the opinion of the writer, the credit of introducing the practice of intra-uterine scarification. Dr. Miller published an account of his practice in 1867. The writer strongly urged the practice of free scarification in many of the forms of uterine disease.

Dr. George S. Stebbins, of Springfield, read a paper on the Value of Med-

ical Opinions. The reader considered many of the problems which are daily presenting themselves to the mind of the physician and those with whom he has to do. He urged the importance of the physician being well versed in the various branches of physical science. He alluded to the perils to which the profession is subjected by unjust suits for malpractice; to sanitation and state boards of health; to medical education and the efforts to raise its standard; and concluded with a tribute to the work of Howard in this direction.

Dr. George Jewett, of Fitchburg, presented a paper on Surgical Injuries of the Head. His paper was based upon several cases which had occurred in his practice and of which the histories were given. In these there was fracture of the skull with effusion of blood between the dura mater and the bone. Dr. Jewett urged *early* operation in cases of such extravasation complicated with symptoms of compression, concussion, etc. The operation should be performed before the case has had time to run through the various stages of inflammation.

Dr. George W. Doane, of Hyannis, read the concluding paper of the session on A Disease Peculiar to Young Men. He had observed many cases which were commonly attributed to be the victims of self-abuse, but which he was convinced were not such, where mental depression and sometimes insanity finally resulted. These patients were subjects of frequent involuntary seminal emissions. They occurred in the children of the better class of society, who had been brought up under the best of influences, and were not guilty of immoral and debasing practices. The only cure he could recommend was marriage.

Dr. Martin, of Roxbury, showed the splint invented by Dr. Carr, of New Hampshire, and spoke of the excellent results obtained from its use in Colles's fracture.

Dr. Marcy, of Cambridge, exhibited an apparatus of his own invention for the rolling of plaster bandages.

Delegates from New York, Connecticut, and New Hampshire were presented to the society. Dr. Jenkins presented the congratulations of the New York State Medical Society and Dr. Chamberlin those of the Connecticut Society.

[A telegram from the Rhode Island Medical Society, sending greeting and good-will to the Massachusetts Medical Society, was not received until after the adjournment of the anniversary exercises.]

At twelve o'clock the annual discourse was delivered by Dr. John R. Bronson, of Attleboro', and at the conclusion of the address an appropriate vote of thanks was given to the orator.

At one o'clock the society adjourned to the Music Hall, where to the number of nearly six hundred the Fellows entered upon the exercises of the anniversary dinner.

At the meeting of the Councillors, held Tuesday evening, the following officers were elected for the ensuing year:—

President, Dr. William Cogswell, of Bradford; Vice-President, Dr. Gilman Kimball, of Lowell; Treasurer, Dr. F. W. Draper, of Boston; Corresponding Secretary, Dr. C. W. Swan, of Boston; Recording Secretary, Dr.

F. W. Goss, of Roxbury ; Librarian, Dr. D. H. Hayden, of Boston ; Orator, Dr. Francis Minot, of Boston ; Anniversary Chairman, Dr. Peter Pineo of Hyannis.

The treasurer's report showed a balance of \$2123.77. It was voted to distribute seventy-five per cent. of this balance among the district societies.

The dinner was in most respects more than usually successful. The speeches were short and to the point, and Dr. Hosmer presided with dignity and skill. Governor Rice made a very good speech. He said that the State cordially greeted all who promoted her welfare. Especially she was pleased to bring greetings to this ancient association. In the Revolutionary period, members of this profession were among the bravest advocates of freedom. During the whole intervening period the society had preserved a brilliant and illustrious record, containing the names of those who contributed to our honor and renown. But a few days ago he received a request from London for the publications of our Board of Health, and, so far as was possible, the request would be granted. True medical science derived knowledge from deduction and experiment. When the coroners of Suffolk County were displaced and their number reduced to two, his excellency wondered by what process a satisfactory selection could be made. The president of the society, perhaps, was acquainted with the secret alchemy required to solve the problem.

Colonel John D. Washburn, of Worcester, in replying to the toast to the legislature, spoke at some length on the coroner system, and traced its decline from its former dignity to its present contempt. In speaking of selecting the medical examiners who are to take the place of coroners, he asked who could be chosen except members of this society.

Professor Austin Flint, of New York, expressed much pleasure in claiming Massachusetts as his native State. His credentials were derived from the Harvard Medical School, where he listened to the instructions of Jackson and Ware. Among his fellow-students were Drs. Bowditch, Shattuck, and others who were present. He gratefully acknowledged the honorary membership conferred by this society.

The Hon. Theodore Lyman replied to the toast on fish culture in a very humorous speech. He said that he had some claim to be present among physicians, as he was a constant reader of the *JOURNAL*, of which he spoke in the most flattering terms.

Dr. D. Humphreys Storer responded to the sentiment : "The two methods of medical education, the old and the new." He said that he did not wish to detract a tittle from the merits of the recent authorities, but that the labors of former years should not be forgotten, and said that the new method began when he and some other gentlemen founded the Tremont Medical School some thirty years ago.

President Eliot was the next speaker. He said that the policy at Harvard in regard to discipline was to allow much freedom to the student. The merit of doing right implied the liberty to sin ; and that we should overcome evil with good. Further improvements were expected at Harvard. In addition to the examination previous to the admission of medical students, a fourth year of study would probably be added. It was impossible for medical education to aim too high.



The Hon. J. B. D. Cogswell, president of the state senate, responded to the following: "The Doctor *vs.* the Lawyer as a Legislator." There always was, or should be, harmony between the two. He paid a glowing tribute to the country doctor, selecting as his type Dr. T. M. Stone, an excellent practitioner on the Cape in former years.

In conclusion, the chairman gave out "The Medical Profession; there is not a man in the community who does not desire the doctor to be good, elevated, and pure."

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### FOSTER'S PHYSIOLOGY.<sup>1</sup>

AMONG the numerous text-books of physiology which have made their appearance within the last five years, the volume before us is preëminent not only as a remarkably successful presentation of all the more recent acquisitions in physiological science, but as a work abounding in wise suggestions as to the direction in which truth is to be sought in those fields where investigations have as yet yielded only uncertain results.

The work is by no means elementary in its character. The author presupposes in his readers a general knowledge of anatomy, histology, physics, and chemistry, and such an acquaintance with physiology as may be obtained from Huxley's *Elementary Lessons*. A student of physiology possessed of this amount of elementary knowledge could scarcely find in any language — and certainly not in English — a book more sure to repay a conscientious and thorough perusal.

The order in which the various subjects are discussed is well adapted to lead the student onward from simple to complicated problems, the work being divided into four books as follows: —

Book I. Blood. The tissues of movement. The vascular mechanism.

Book II. The tissues of chemical action, with their respective mechanisms.

Book III. The central nervous system and its instruments.

Book IV. The tissues and mechanisms of reproduction.

In each of these subdivisions are to be found clear statements and judicious criticisms of the labors of recent investigators. Thus in Book I. we find in the first chapter the best description in the English language of Schmidt's observations on the coagulation of the blood, in the second chapter an admirable description of the changes occurring in muscular contraction, and in the fourth chapter a very clear account of the hydraulic principles concerned in the circulation of the blood, etc.

Recent investigations on the functions of the cortex cerebri are fully discussed in the appropriate place, the author being inclined to the belief that the definite movements caused by electrical stimulation of certain convolutions are "due to the escape of the current from the surface to which the electrodes are applied to deeper underlying portions of the brain, the escape taking place along definite lines determined by the electrical conductivity of the brain substance."

<sup>1</sup> *A Text-Book of Physiology.* By M. FOSTER, M. D., F. R. S. London: Macmillan & Co. 1877.

The only passage in the entire work which gives evidence of a want of thoroughness in its preparation is the description of the causes which at birth lead to the establishment of the respiratory movements. According to the author, "during the whole time of intra-uterine life the amount of oxygen in the blood passing from the aortic arch to the medulla oblongata is sufficient to prevent any inspiratory impulses being originated in the medullary respiratory centre. . . . As soon, however, as the intercourse between the maternal and umbilical blood is interrupted by separation of the placenta or by ligature of the umbilical cord, or when in any other way arterial blood ceases to find its way by the left ventricle to the medulla oblongata, the supply of oxygen in the respiratory centre sinks, and when the fall has reached a certain point an impulse of inspiration is generated and the fœtus for the first time breathes."

This theory obviously fails to account for the respiratory movements of the child occurring at the moment of birth in cases of adherent placenta with lack of uterine contractility, and in the case of the first of a pair of twins attached to the same placenta. Moreover, Pflüger has shown by experiments on rabbits that compression of the cord at its abdominal insertion or the pinching of any point on the surface of the body produces only a single inspiratory movement, and that after separation of the placenta rhythmical respiratory movements are established only when the membranes over the head are divided, so as to allow the air to come in contact with the face. It seems therefore evident, both from the observations of the obstetrician and from the experiments of the physiologist, that the essential condition for the commencement of the normal respiration is to be sought in the contact of the external air with the surface of the body, although deficiency of oxygen in the blood may in certain pathological conditions call forth the first inspiratory act.

It is very satisfactory to notice the adoption throughout the work of the metric system of weights and measures, but the use of unfamiliar units has led in some instances to inaccurate statements which will doubtless be corrected in a future edition. Thus the maximum work of one gram of frog's muscle is spoken of as three to seven kilogrammeters (instead of grammeters), and the rate of movement of the contraction wave in the ureter is given as twenty to thirty meters (instead of millimeters) in one second.

B.

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#### DISMISSAL OF CORONER NEWTON.

WE have already alluded to the receipt by the legislature of a petition signed by many of the leading physicians and surgeons of Boston requesting that Newton's commission as coroner be revoked. Several hearings were appointed, at all of which Newton failed to put in an appearance on account of a severe and dangerous sickness. The question of jurisdiction having been raised, the legislature came to the conclusion that as a coroner was not a judicial officer the legislature could not take any steps looking to his removal. Accordingly the evidence and papers in the case were sent by the legislature to the governor, and by him brought before his council. Here they were referred to a committee consisting of councillors Cogswell, Toland, and Childs. After a

thorough examination of the evidence submitted to them, they made a report to the council June 14th, unanimously recommending that the commission of Coroner Newton be revoked for the following reasons:—

First. Because the evidence shows a want of moral principle and a disregard for truth on the part of said Newton.

Second. Because the evidence further shows a want of knowledge of his duties as coroner, or a culpable disregard of law, and frequent breaches of trust in his official capacity.

Third. Because in his conduct of the Clara Fisher case, a full report of which was before the committee the said Newton exhibited more the spirit of a prosecutor than of a judicial officer, with apparently more of a desire to involve innocent parties than to obtain the real facts in the case.

This report was unanimously adopted by the council, and, in accordance with the recommendation, a writ of *supersedeas* was issued June 14th by the governor revoking and annulling Newton's commission. The writ was given June 16th to the sheriff of Suffolk County with directions to serve it.

With the account of this dishonorable dismissal of Newton from his office as coroner we close our history of a libel suit which Newton began against us when we protested against his appointment as coroner because he did "not appear to have the standing, education, or character which the position" demanded, although he believes "himself to be a competent and suitable person to perform the duties of coroner."

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## A MEDICAL LAWSUIT IN MAINE.

WE have been obliged to defer till now some remarks on a suit for alleged malpractice at Bangor, which apparently has attracted much attention in Maine. The defendant, Dr. E. F. Sanger, is president of the Maine Medical Association, and has held many medical positions of importance both in civil and military life. The suit, which bore a somewhat suspicious appearance, was brought by the father of a child operated on for talipes, in 1871, when thirteen months old. The evidence for the prosecution was certainly very peculiar. Physicians, who had never seen the case till shortly before the trial, swore that the trouble had been paralysis of the peronei, and endeavored to show that the operation had been badly performed as a little blood was lost. They stated also that the sheath of the tendon should not be injured, and dwelt a good deal on Sayre's writings, to supply the want of experience on their own part. It was shown by the defense that Dr. Sanger had received no pay for services and only a part of the cost of apparatus. Drs. Hill and Tewksbury testified for the defendant. The prosecution evidently had at best a very weak case, but remembering how inclined juries are to be misled under such circumstances, we are very glad to congratulate Dr. Sanger on his acquittal.

## MEDICAL NOTES.

— *The New York Medical Record* makes some remarks on the address which Dr. Fordyce Barker delivered at the recent meeting of the American Gynecological Society. They seem well worthy of notice.

“Without wishing to ignore the just claims of operative gynecology, he very properly urged the giving of more attention to the medical treatment of uterine disease. There is no doubt that this latter branch of our science has been too much neglected,—that many operations have been done more because they were fashionable than for any good conferred by them upon the patient. It is so easy to gain credit by such procedures, that it is no wonder that so many yield to the temptation. Then, again, the uterus is so non-retaliatory that it invites all sorts of inroads upon its textural integrity. The shedding of uterine blood apparently begets an insatiety for gynecological operations, which, when once established, is sometimes dreadful to contemplate. Cases are on record in which surgeons have timidly begun with incising the os, then with excising the cervix, body, and fundus of the uterus, and lastly, when ovaries were included in the ablation, have actually mourned that nothing more was left to conquer. The fact that some of these patients get well may help to prove that, gynecologically speaking, the uterus and appendages are incurable. But the other side of the argument is that women who are not operated upon, whose uteri know not the knife, the scissors, *éraseur*, or pessary, also get well. This is certainly great comfort to the ordinary practitioner, who has a healthy fear of disturbing peritoneal coverings, of poking pessaries into the bladder, of mistaking the uterus for the ovary, and of any of the other trivial accidents which occasionally happen in the higher walks of gynecology. The fact is that the desire to cut, twist, burn, amputate, electrolyze, and pessarize the uterus has amounted almost to a mania. The aspiring gynecologist who has been unable to devise a new operation, invent a speculum or modify an old one, has been compelled to infuse his energies either into a new cautery iron, a novel back-action curette, or a manifold self-acting elevator. If, perhaps, he fails in every other way in encouraging operative procedure, he gives a new and important twist to a pessary, establishes a principle, and makes a reputation. But if the time has come for a change of opinion, if the worst must come to the worst, advocates of the new doctrine can do no more than arrest the study of surgical statistics, and, as a possible consequence, create a corner in uterine pathology. In any event we are willing to give the uterus one more chance.”

— Dr. L. D. Bulkley uses the following ointment to allay itching:—

℞ Pulv. gummi camphoræ	
Chloral hydrat.	āā 3i.
Ung. aquæ rosæ	3i. M.

The chloral and camphor are to be carefully rubbed together till a fluid results, and then the ointment is to be added slowly and well mixed.

It does not answer when the skin is at all broken; the burning sensation caused on its first application lasts but a few moments, while the relief lasts

for hours or the whole day even. (Transactions of the American Medical Association.)

— In giving statistics regarding the consumption of leeches in the Paris hospitals, *L'Union médicale* remarks upon the prevalence of venesection during the first half of the present century. With its decline the use of leeches has also greatly lessened. The annual consumption of leeches in the hospitals of Paris from 1820 to 1824 was some 183,000; from 1824 to 1830, 508,000; from 1830 to 1842, 828,000; from 1842 to 1850, 430,000; from 1850 to 1855, 225,000; from 1855 to 1863, 138,000; from 1863 to 1870, 93,000; from 1870 to 1875, 52,000. In 1835 the expenditure for leeches in the hospitals was 90,000 francs: to-day it is not more than 1800 francs.

— The following is a literal copy (names only being omitted) of a note recently received by a prominent Boston surgeon from a town in New England.

“ May 22 the 1877

DEAR SIR I have in my hands A Receipt for Curin Cancers without the uce of the Nife or Plaster which i want to Sell to Some of you Surgeons for the Poor human Rase that Sufer Pane By Plasters and the nife and this Soothes the pane this is no humbug Nor am i a imposter Nor a Scoundral and if you want A Recermendation of my Cariture you Can have it this has Cured Cancers on a lady Brest after all Doctors had given her up And it was as Big as a pint Bole it took all the Pane out And took the Cancir of and i think it Cant Be Beat i Can almost Chaling the world to Beat it thare is no Pane nor Suferin A Bout it I do this Because i think you Aught to have it And if you want it you write to me at once i have the Receipt and the Proof of what it has don for those that have Ben Cured By its use

It is a 15,000 dollar Receipt

Yours Truley”

— Madras, says *The Medical Press and Circular*, continues in a terrible state of unhealthiness, the last official returns giving the mortality at 146 per 1000 of the population; this rate included 357 fatal cases of small-pox and 132 of cholera. The highest death-rate in Europe at the present time is in Pesth, with 41 per 1000.

### KNOT IN THE UMBILICAL CORD.

MESSRS. EDITORS,— In the JOURNAL of 10th of May, Dr. D. E. Wells, of Bethlehem, N. H., gives a case of knot in the umbilical cord, with death of the child.

In a practice of twenty-seven years I have met with one similar case. In December, 1875, Mrs. N. had a tedious labor; child still born, cuticle loosened in places, showing that death had taken place some time before birth. The cord was very long, fifty or sixty inches,— I am not certain which, but it was carefully measured. There was a single knot firmly tied in the cord, of course stopping circulation and causing the death of the fœtus. The child was large, and only a very long cord would render such a knot possible. Motion of child had ceased before I was called. The mother did well. Yours truly,

J. W. SMITH.

CHARLES CITY, IOWA.

## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 9, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	430	20.76	27.46
Philadelphia	850,856	328	20.05	22.88
Brooklyn	527,830	197	19.41	24.31
Chicago	420,000			20.41
Boston	363,940	97	13.86	23.39
Providence	103,000	30	15.14	18.34
Worcester	52,977	15	13.74	22.00
Lowell	53,678	23	22.28	22.21
Cambridge	51,572	11	11.08	20.54
Fall River	50,370	9	9.29	22.04
Lawrence	37,626	11	15.20	23.32
Lynn	34,524	9	13.56	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	5	9.72	23.57

MILITARY APPOINTMENTS. — April 10, 1877, George S. Osborne, M. D., of Peabody, to be surgeon (rank major), second corps of Cadets, M. V. M., vice Southard, discharged by reason of change of commanding officer. May 1, 1877, Samuel Howe, M. D., of Boston, to be assistant surgeon Fifth Regiment of Infantry, vice Marion, promoted surgeon Fourth Battalion of Infantry, M. V. M. The above-named gentlemen passed a successful examination before the Board of Medical Officers, M. V. M., May 14, 1877.

EDWARD J. FORSTER, Recorder of Board,  
Surgeon Fifth Regiment of Infantry, M. V. M.

May 15, 1877, William A. Dunn, M. D., of Boston, late assistant surgeon Battery A, Light Artillery, to be assistant surgeon of First Battalion of Cavalry, to fill an original vacancy. By chapter 117, acts of 1877, nine more assistant surgeons were allowed.

The following are the existing vacancies in the medical staff of the militia: —  
Surgeon Seventh Battalion of Infantry.

Assistant Surgeon First Battalion of Infantry.

"	"	Second	"	"	"
"	"	Third	"	"	"
"	"	Fourth	"	"	"
"	"	Seventh	"	"	"
"	"	Ninth	"	"	"
"	"	First Corps of Cadets.			
"	"	Second Corps of Cadets.			
"	"	Company F, Unattached Cavalry.			
"	"	Battery A, Light Artillery.			

ERRATUM. — In our issue of June 7th, page 678, Dr. Bowditch accidentally referred to Caldwell instead of McDowell, of Kentucky, as the first ovariotomist.

BOOKS AND PAMPHLETS RECEIVED. — Medical and Surgical Reports of the Boston City Hospital. Second Series. Boston: Published by the Board of Trustees. 1877.

An Elementary Treatise on Practical Chemistry. By Frank Clowes, D. Sc. Lond. With Illustrations. From the Second English Edition. Philadelphia: Henry C. Lea. 1877.

Micro-Photographs in Histology. By Carl Seiler, M. D. Vol. I. No. 9. Philadelphia: J. H. Coates & Co. 1877.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## PLASTIC SPLINTS IN SURGERY.<sup>1</sup>

BY HENRY O. MARCY, M. D.

PERHAPS the two greatest advances made in surgery since the discovery of anæsthetics are antiseptic treatment of wounds and the use of plastic splints in fractures. Yet it remains a fact that a large proportion of the profession have in practice adopted neither: many from an imperfect trial and defective result, with profound ignorance of method and detail, while a much larger number, content with the good old ways, careless of advancing knowledge, practice the routine methods taught in the text-books of their youth.

At the outset let us ask ourselves what we should theoretically aim to secure in the treatment of fractures. Permit us briefly to consider that which takes place in the reparative processes of a simple fracture retained quietly in apposition. A longitudinal section of a bone from a young animal, broken three or four days previous to examination, exhibits the soft parts elastic and swollen, forming a not very thick layer about the fracture, gradually diminishing from it toward the extremities of the bone. About the broken ends some blood has been extravasated, while the medullary cavity is more or less infiltrated with the same fluid. This varies in accordance with the amount of injury the soft parts have received.

The periosteum may be readily recognized at the point of fracture, more or less imbedded in the plastic infiltration. A week later the extravasation has nearly disappeared. The plastic effusion now has the appearance and consistence of cartilage. We also find young cartilaginous formation in the medullary cavity in the immediate vicinity of the fracture. By this the broken fragments are united, as if imbedded in wax or glue. The periosteum is swollen, and its distinct outlines are lost in the formative mass. Even now true ossific formation may be microscopically demonstrated. It is not alone interesting but pertinent to the subject in discussion to ask the true origin of the newly formed bony substance. Quite recently great powers of bony reproduction were attributed to the periosteum. Although it may not be denied that this

Read at the Annual Meeting of the American Medical Association, held at Chicago, June, 1877.

is an important factor in the formative processes, perhaps from a periostitis producing an osteo-plastic deposition, yet it is certainly true that in young animals and children, by change from cartilaginous formation, and in adults directly from the plastic effusion, there develop true ossific deposits within the medullary cavity as well as upon the surface about the fracture.

In the undisturbed limb of a healthy subject these changes progress much more rapidly than is usually supposed. Let us follow the histological processes which take place in the bone itself in the immediate vicinity of the fracture. As you will remember, in the Haversian canals lie blood-vessels surrounded by a net-work of connective tissue. In this connective tissue there takes place an inflammatory new formation of small round cells, which, if developed too rapidly, entirely compress the nutrient blood-vessels and cause the death of the bone. But if this infiltration of cells goes on slowly, the walls of the Haversian canals are widened by absorption, the cells, which at first, according to Cohnheim, are white-blood corpuscles, gradually fill the canals, while the blood-vessels increase by forming loops. As the connective tissue of the osseous canals is continuous with the periosteum and medulla, the above-described cell infiltration is also continuous into the bone medulla and periosteum. Thus we see that the cell infiltration in the bone itself, as well as in the surrounding parts, aids in the formation of callus, and that certainly the periosteum plays no exclusive rôle in the reparative processes.

I have hastily reviewed Nature's way of repairing damages, in order that we may the more intelligently discuss the necessity as well as the extent of the new formation of bony development about a fracture called by Dupuytren "provisional callus."

Not long since I was summoned as an expert in court to examine the tibia of a young woman, which was said to have been fractured some months previously. I met there, in consultation, one of our most experienced physicians, and the question whether fracture had occurred was in a measure dependent upon the necessity of the formation of a provisional callus of sufficient extent to be recognizable at this period after the injury. It was given in testimony by the attendant physician that there had been a transverse fracture of the tibia, but no fracture of the fibula, and as a consequence no shortening and no displacement of the fragments. This gave the best possible conditions for repair, and certainly, if fracture had occurred, there was remaining very little, if any, provisional callus to mark the seat of injury. We examined carefully all the specimens of fracture in the college museum, and these showed unmistakably that the callus corresponded with the amount of deformity and displacement of the fragments. This may be reduced to such a minimum that after a moderately limited time has elapsed, there remains very little or nothing to mark the seat of the fracture.



Thus far we have discussed the question of the repair of fractures only from the most favorable stand-point. We are taught by observation that the reparative processes go on, both in point of time and extent of new formation, according to the condition of the injured parts at and subsequent to the injury.

Without going further into detail, I think we may deduce conclusions of a general character to which one may give assent. The first requisite is the replacement or adjustment of the injured parts. If we are governed by our knowledge of the anatomical conditions, and the histological processes supervening, the earlier this can be done the better. This is quite contrary to the teaching of my school-days, when the "provisional dressings" were considered the correct thing, and the permanent adjustment of the fracture and application of apparatus were deferred until after the swelling had subsided. Indeed, this feeling lingers in the minds of many to-day. When conversing with Mr. Erichson, in London, some years since, I raised this objection of the subsequent swelling to his fixed apparatus in treatment of fracture of the thigh; his reply was, "The sooner I put the limb in fixed apparatus the better, and if at once after the injury there is little or no swelling."

A few days since, being asked how he treated fractures, a physician of middle age and wide practice said: "I like best to take down my fractures every day, not only to see how they are doing, but by extension and manipulation to be sure they are kept in place." Review for a moment the delicate and complex processes of repair previously described, and tell me what builders, except the patient forces of nature, would ever consent to further effort at reconstruction under a daily rending of their best work.

If we accept, then, as the first factor of treatment of fracture the early adjustment and rest of the injured parts, the second essential would be *retention* and *immobility*, so far as possible, until the repair processes are in an advanced stage of completion. "Extension and counter-extension until adjustment, and then fixation and retention until union:" these are the words used by Dr. L. A. Sayre, of New York, in the discussion of the treatment of fractures at the meeting of the American Medical Association, in Philadelphia, last June.

If it be granted that we have arrived at a satisfactory conclusion as to what should be aimed at, let us see how nearly the methods hitherto chiefly in use accomplish the desired purpose. We can mention only hastily a few of these:—

The fracture box, still figured and described in most works of surgery, accomplishes at the best only imperfectly the desired end. Lateral pressure is substituted almost entirely for extension and counter-extension. Its chief recommendation lies in the easy inspection of the injured portion, and this in a simple fracture is a temptation to meddlesome surgery;

while in bad compound fractures necessitating the retention of the patient, it bears no favorable comparison with the fenestrated plastic splint suspended from above by rubber support.

Of the ready prepared wooden splints, still unfortunately in common use, I can do no better than quote from Mr. Hamilton's last edition of his work upon Fractures, where he says, "I wish at once and for all to disclaim my intention of giving even a qualified approval of any of those carved, polished, and generally patented wooden splints which are manufactured and sold by clever mechanics, and which one may see suspended in almost every doctor's office, constructed with grooves and ridges and variously inclined planes, for the avowed purpose of meeting a multitude of indications, such as to protect a condyle, to press between parallel bones, to follow the subsidence of muscular swelling, etc. ; they never meet exactly a single one of these indications, whilst they seldom fail to defeat some other indication of equal importance. They deceive especially the inexperienced surgeon into the belief that he has in the splint itself a provision for all these wants, and consequently lead him to neglect those useful precautions which he would have otherwise adopted."

The use of traction, the continuation of extension and counter-extension, as in the application of the weight and pulley, — still a favorite method in the treatment of fracture of the thigh, — although giving better results than the use of the side splint with perineal pressure, is open to many weighty objections when we remember that the delicate processes of nutrient repair must be disturbed by a constantly extending force.

Let me here quote briefly from Dr. Sayre in the discussion referred to above : "Extension after adjustment is all wrong. It excites irritation of the muscles, and if you keep up this excitement and irritation, as you will do by extension, which is like the continued application of elastic force (and this is done with Buck's apparatus, in which you are extending beyond what is requisite, and the continued extension excites reflex irritation), the muscles will contract, and there is a fight going on between the muscles and the doctor, and irritation is kept up to the constant inconvenience of the patient ; and at last the muscles become exhausted by the application of constant force and yield to it ; then you get elongation and non-union. I have seen quite a number of such cases."

Surgeons of the German school have arrived at a much greater unanimity of practice in the treatment of fractures. Billroth, in his *Surgical Pathology*, says : "Regarding the choice of dressings, as well as the period of application, surgeons have of late reached an almost unanimous opinion. It may be regarded as a rule that a solid, firm dressing should be applied as early as possible in all cases of simple subcutaneous fracture of the extremities. This may be changed two or three times, but

in many cases does not require removal. This mode of dressing is called the *immovable* or *fixed*, in contradistinction to the movable dressings, which must be renewed every two or three days, and are only provisional dressings. I doubt not the time will soon come, when every country physician will always keep a few plastic splints ready prepared."

The plastic dressings are in considerable variety. Gutta serena comes under this head, and although not immovable or fixed, is for certain purposes of great value, and every one called to treat fractures ought to be familiar with its ready manipulation and use.

The starch bandage came into use nearly a generation ago, and Seutin, of Belgium, made for himself a name in perfecting and extending its application.

Glue, dextrine, white of egg, flour, and various gums were used in solution with more or less success. Silicate of potash (liquid glass) is now used by many. It has certain advantages, may be applied in solution with a brush, is lighter but not so firm a dressing as plaster, does not dry as quickly, and where there is a tendency to displacement should be employed only in connection with other splints. Last year there was exhibited to us in Philadelphia a dressing made of glue thickened with oxide of zinc. This I have used several times with satisfaction. Its mode of application is as follows: mix into a thick solution of glue a quantity of oxide of zinc and apply it hot with a brush to any moderately firm, strong cloth covering the limb; for instance, a strong stocking, for the leg. This sets or hardens somewhat slowly, but makes a light, neat, firm dressing, and where not much tendency to displacement exists, as in fractures in children or of the fore-arm, it is a very desirable splint. A little care is requisite not to put too much zinc into the glue, as it makes the splint brittle and liable to crack.

Plaster dressings, as made with roller bandages, were first introduced by a Dutch surgeon, Mathysen, who published an account of them in 1832. They have become known in Europe only since 1850, and chiefly through the influence of the Berlin school. As late as 1870 they were made there by soaking pieces of felt or other material in the plaster, and coating the whole afterward with a thick paste of the same. At the last clinic of Langenbeck which I attended he was treating a broken leg with this dressing. This was the method hit upon by Pirogoff, the distinguished Russian surgeon in the Crimean war, after he had exhausted his other dressings; it proved successful beyond all expectation, and was widely adopted. Plaster in tin cans was furnished to and used by some of our surgeons during our last war, but unfortunately was unknown to me until a later period. The great improvement made more recently consists in rubbing or rolling the plaster when dry into the bandage, and thus keeping it ready for use in a close

tin until required, when it should be placed in a vessel of warm water sufficiently deep to cover it, and as soon as bubbles of air have ceased to escape it is ready to be applied.

The thorough filling of the meshes of the cloth, by rubbing the plaster in with the hand, is a matter of considerable trouble, and at the best can be only imperfectly done; too much plaster annoys in the manipulating, besides making the splint heavy and liable to crack, and too little renders it less firm and compact.

Messrs. Codman and Shurtleff, of Boston, have made, at my direction, a bandage roller which distributes the plaster evenly upon both sides of the cloth, by drawing the bandage from below upwards through the dry plaster, and can be recommended as not expensive, easy of manipulation, and satisfactory in the result attained.

After the surgeon is thoroughly convinced that complete adjustment is secured, — and this is the most important factor of all, for a mistake in this respect cannot be remedied afterward, — the limb is best covered with some light, soft material of uniform thickness; after much experimenting I have adopted a single layer of white sheet-wadding as the best, and with this held lightly and uniformly in apposition you are ready to begin with the plaster roller.

At the risk of seeming tedious, I must be allowed here to caution the inexperienced, for in this careful attention to detail lies the whole secret of the successful use of the fixed dressings. This application of the dry roller underneath is oftentimes the dangerous element of constriction, and in the use of movable splints is absolutely to be prohibited. It must be loosely applied, remembering that its sole purpose is to retain the wadding, and this with a little patience on the part of the operator is more neatly and evenly done by sewing its edges with a few stitches, or by using a solution of gum or paste. Commence at the extremity of the limb, independently of the seat of fracture, and in the lower extremity continue the bandage so as to secure the immobility of the articulation above the point of injury. This rule is imperative. If you do not commence at the extremity, of course leaving out the fingers or toes, you will have œdema of the uncovered foot or hand, even when the bandage does not fit too tightly above. This I have seen a number of times when the patient had worn a splint for three weeks with perfect comfort and good result; but, over-anxious to see the foot, he chipped away that portion covering the member, and there followed œdema sufficient to demand the removal of the splint.

The joint above the fracture, by every method of treatment, must be kept at rest; yet I have seen several plastic dressings applied which secured neither articulation, and the practice was condemned because of a bad result.

The kind of cloth employed is of considerable importance. I sadly

failed in the application of a bandage to a fractured thigh, last winter, on this account. My supply of bandages was accidentally exhausted, and we attempted to temporize by the use of old sheets. This cloth, worn smooth and ironed, took up plaster very badly, and was not of adequate strength.

After using almost every variety of texture, I have chosen the cheapest bleached cloth of the market; this is thoroughly soaked and boiled, to remove the dressing of the finisher, and then is rough dried. The plaster must be freshly calcined and carefully protected from the absorption of moisture from the atmosphere. Four or five thicknesses of bandage are usually sufficient; this may in some cases be wisely reinforced by narrow strips of roughened tin, to strengthen and prevent cracking. Lastly, continue the extension until the plaster sets or hardens, which with good material will take place in about ten minutes; then lay the limb uncovered upon the bed, and leave it exposed to the air until it dries. I have seen a good splint spoiled by inclosing it under the bedclothes and packing hot-water bottles about it, thus keeping it for hours moistened in a steam bath in the attempt to dry it quickly.

Time does not permit me to follow out the application of these general principles, all too briefly dwelt upon, to particular fractures. Without the knowledge that Colles's fracture of the radius has been treated by these dressings, it is only during the past year that I have ventured upon their use in this particular injury. During my entire practice I do not remember to have had or seen a result after this fracture that I consider perfect. All the varied splints in use have proved unsatisfactory. My experience with plaster of Paris has been both a surprise and a delight. The number of cases (twelve) is too small, it is true, to teach much, but in all, with the exception of two, which were not seen until a week had elapsed, the result may be called perfect. The patients suffered no pain, and after the first week used the fingers a little; there was not much subsequent stiffening, and no deformity. These are better results than attained by any other method known to me, unless that of Dr. Martin, of Roxbury, who reports a remarkable series of cases treated with the Carr splint.

Perhaps I have not made it sufficiently apparent that the plastic splints, like every other device in surgery, are wielded for good or ill, in accordance with the skill made use of in their appliance. In the hands of ignorant or unskillful men they can only be dangerous, for they cover the mistake until it is too late to be remedied. For this reason it has been recommended to those who do not feel confidence in their skill of appliance to split the bandage at once, and thus be able to tell what is going on beneath. It is on this account that the Bavarian or hinged splint has found so many advocates. This may be good practice at the beginning, but when you have confidence in your diag-

nostic skill, and the happy knack of rightly fitting your bandage, it is far best let alone. You can easily judge if the circulation is good, and the comfort of the patient is one of the best evidences that all is going well. The following symptoms will indicate that the bandage is too tight and must be removed at once: swelling of the fingers or toes which are left exposed; should they become purple, benumbed, or cold, the circulation is impaired and the compression too great. Even without these symptoms continued pain is sufficient indication that something is wrong.

Do not fail to visit your patient within twenty-four hours, and be personally sure that all is right.

In criticism of the treatment of fractures of the thigh by plaster splints in comparison with the method by weight and pulley, Dr. Post, of New York, last year said: "I am prepared to say the result is better, and I have seen excellent results by other treatment, but I think the treatment with the plaster-of-Paris bandage is a very dangerous one in the hands of men who have had but little experience."

I think this the best practical advice, yet I would say that it is a duty incumbent upon any man who professes to care for surgical injuries, and assumes the responsibility dependent thereon, not alone to know the best way; and, if fixed plastic dressings are acknowledged to give the best results, to make himself familiar with their use. Again, I claim that any man of moderate mechanical skill — and one not possessed of this has no right to practice surgery — can with a little care learn to use plastic splints well.

I have spoken of the danger of putting on the splint too tight, from which cause even gangrene has been known to result, and the last objection I propose now to mention is the rapid atrophy which a limb frequently undergoes when held at rest in a splint.

I removed one a few days since, from the limb of a man who died at the end of the fourth week from fracture of the skull and subsequent inflammatory action. The bandage, which was properly fitted to a healthy, well-developed leg (the tibia and fibula were both fractured near the middle) an hour or more after the injury, was so loose at the time of its removal that probably not one fourth of its surface was in contact with the leg. Yet the union was perfect, with very little provisional callus, explained by the fact that the processes of repair had gone on rapidly, though from his other injuries under the most unpropitious circumstances, so that the fragments were fixed and held in apposition firmly before the shrinking of the limb could affect the result. Ordinarily, with such atrophy the best treatment would demand a new dressing.

Dr. Sayre says "that under favorable circumstances union takes place in bone by first intention, and will be a firm, bony union in from twelve to fourteen days." If this be true, the shrinkage occurring from atrophy is of minor importance.

In simple fractures of the lower extremities a patient may almost at once be up on crutches, and not only the tiresome confinement of weeks in bed is avoided, but a better nutrition of the injured limb is thus secured. When removal is desired it is perhaps best accomplished by Sentin's scissors variously modified, but the bandage is quite easily divided with any strong, sharp knife, by cutting obliquely through to the wadding and removing it like a shell from the inclosed limb.

I should fail of doing justice to myself or the subject, did I close without making reference to one of the latest applications of the plastic bandage to angular curvature of the spine, by Dr. Sayre, of New York. I would earnestly request all interested in the treatment of this class of unfortunate sufferers to make themselves familiar with Dr. Sayre's publications upon this subject, as one of the most valuable contributions to modern surgery.

I have now treated a considerable number of patients by this method, with most satisfactory results; and believe were Dr. Sayre known for no other service, his name would descend to coming generations as a benefactor to his race.

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### THE OBSTETRIC BAG.<sup>1</sup>

BY GEORGE E. FRANCIS, M. D.

PROFESSOR PLAYFAIR, in his lately published Treatise on Midwifery, gives this excellent advice: "The practitioner should always be provided with the articles he may require." "Every one can manufacture an excellent obstetric bag for himself, at a small expense, by having compartments for holding bottles stitched on to the sides of an ordinary leather bag, such as is sold for a few shillings at any portmanteau-maker's. It is a great comfort to have at hand all that may be required, and the bag should contain chloroform, chloral, laudanum, the liquor ferri perchloridi of the Pharmacopœia, and the liquid extract of ergot. If it also contain a Higginson's syringe, a small elastic catheter, a good pair of forceps, and one or two suture needles, with some silver wire, the practitioner is provided against any ordinary contingency. Other articles that may be required, such as thread, scissors, and the like, are generally provided by the nurse or patient."

Having for some years been in the habit of taking such a bag with me whenever called to a case of labor, I wish to bear witness to the comfort it affords, to make some comments upon its list of contents, and to propose a few additions which I have found useful.

The chloral is most conveniently carried in aqueous solution, each minim containing a grain. This is cleanly to handle, easy to measure,

<sup>1</sup> Read before the Worcester District Medical Society, March 14, 1877.

and will not decompose. It is used as an anæsthetic during the first stage of labor chiefly, and in my opinion is best administered by the rectum, for it is a nauseous drug to swallow, and is not always retained by the stomach, while forty grains in an ounce of warm water gently injected into the rectum give very little annoyance. Women are often suspicious of any dose which they are told to swallow, especially in the early part of labor, lest it should hurt the baby or do other mysterious harm; but an injection for the declared purpose of softening and relaxing the parts and soothing the pains is rarely objected to. Several times after using chloral in this way to relieve the agony which attends the dilatation of the os, in the first labor of a sensitive woman, I have been surprised by the sudden and unexpected relaxation of the os and the rapid descent of the child, and I now never venture to leave the patient after chloral has been given till labor is completed.

I carry in my obstetric bag, besides the articles mentioned in Professor Playfair's list, some appliances for caring for the umbilical cord and for preserving cleanliness. The cord has to be severed at a moment when the mother needs the closest attention to guard against hæmorrhage, and to secure celerity I find it well worth while to carry special scissors and tying material; the blades of the former have round ends, to avoid harming the baby; for the ligature I have found nothing better than the round, soft, braided cotton, sold for corset-lacings. In the details of midwifery practice there is nothing which adds more to the comfort and to the reputation of the practitioner than cleanliness. If the woman and the bed can be kept clean and dry during the labor, at its close she needs very little handling, and can take her well-earned rest at once; meanwhile the nurse is in good humor, and the doctor feels himself fit to return to civilized life.

The basin I use most frequently measures twelve and a half, six and a half, and two and one half inches, in length, width, and depth, weighs ten ounces, and may seem larger than is necessary; but I feel well repaid for the possible annoyance of extra weight and bulk by feeling prepared for the deluge that now and then comes. This basin serves to catch the liquor amnii, when the membranes are ruptured, either naturally or by the use of a blunt point; it receives the fæces and urine which are sometimes forced out in spite of all precautions; its shallowness allows the child's head and body to pass over it, while the attendant gush of mingled filth is prevented from reaching the bed, and finally it catches the placenta and the clots which may be forced out with it. I have often found the bed to be absolutely dry at the end of labor; but with much less perfect success the difference in comfort which the use of a basin makes is simply astonishing. One or two trials with an ordinary shallow hand-basin will convince the most skeptical that this novelty is a real improvement.



## A CASE OF VITILIGO IN AN INFANT.

BY EDWIN FARNHAM, M. D., CAMBRIDGE.

KAPOSI in his article on vitiligo, in the *New Sydenham Society's* edition of *Hebra on Diseases of the Skin*, vol. iii., p. 181, says: "It would seem that the disease commences in middle life only. We have never seen it in children, and only in old people when it had already attained to a considerable degree of development. As a rule, those who are affected with vitiligo are thoroughly well nourished, or at any rate they do not show any kind of cachexia." In a foot-note on the same page reference is made to the case of a boy aged twelve years, under the care of Mr. Hutchinson for vitiligo, in whom the disease is said to have begun eight years before, consequently at the age of four years. The case about to be narrated differs in many respects from those that have come under the observation of Kaposi.

The patient, J. D., is a full-blooded negro infant, twenty-one months of age, in a condition of well-marked rickets. There is considerable outward curvature of both lower extremities; thickening of the distal ends of both radii and ulnæ, tibiæ and fibulæ, with retarded ossification of the fontanelles, most conspicuous in the anterior one. There is slight craniotabes near the posterior margin of the right frontal bone. The child stands with difficulty even when clinging to some object for support. Its favorite position is sitting with the legs crossed, tailor-like. The appetite is capricious, the digestion fair. It is a specimen of humanity not thoroughly well nourished, and showing, moreover, a decided kind of cachexia. It was born, according to the account given by the father, mother, and grandmother, without any deficiency in the ordinary amount and distribution of pigmentation; nursed at the breast the usual time, and followed the usual course of existence pursued by most babies. When a year old, however, a small light spot was observed under the chin, which has continued to increase slowly and steadily up to the present time. The gross appearance of this patch of vitiligo is as follows: It is irregularly oval in shape, and sharply margined, there being no fading away of the natural color at the line of demarkation, but abrupt termination. The horizontal diameter is two inches and a half; the vertical, one inch and a half. The spot is on a level with the surrounding skin. To the touch it presents no difference from the rest of the tegumentary covering. Its color is of the shade known in the white races as *brunette*, while the remainder of the child would justify a comparison with the *ace of spades*.

RECENT PROGRESS IN SURGERY.<sup>1</sup>

BY J. COLLINS WARREN, M. D.

*Excision of Joints.*<sup>2</sup> — Dr. Culbertson has collected his cases by means of circulars addressed to physicians in the United States and reference to various surgical treatises and medical journals. The work is chiefly statistical in character.

*Excision of the Hip-Joint.* — One hundred and twenty-one cases of excision for gunshot injury have been collected. Of one hundred and nineteen of these, of which the result is known, thirteen recovered. The results given show that this excision cannot be strongly advocated with a view of obtaining useful limbs, but simply as a surgical resource to save life.

Four hundred and seventy-two cases of excision for disease are given. Of these two hundred and forty-one cases were of partial excision. In regard to the extent of bone removed, we learn that the greatest mortality was shown in cases in which the head of the femur alone was excised, next the head and neck, next head, neck, and trochanter. The most favorable results were obtained when the head and part of the trochanter were removed. There are one hundred and seventy-seven cases of complete excision for disease. We find here that the mortality is greater in complete than in partial excisions; that it increases as the amount of pelvic bone is removed. "One might say that the mortality-centre is at the head of the femur, the rate diminishing as the bone is removed outwards along the femur, but increasing as it advances inwards upon the pelvis." Ninety cases of this series recovered. Forty-five per cent. of these obtained "perfect limbs."

*Excision of the Knee-Joint.* — Mr. Filkin, of Northwich, England, was the first to execute a complete excision of this joint for disease, in 1762. The author has collected about seven hundred cases. In comparing hospital with private practice we find that 25 per cent. died in private practice and 87.5 per cent. in hospital practice when the operation was done for gunshot injury. When done for disease the mortality in private practice was 30.76 per cent., and in hospital practice 25 per cent. Males endure this operation better than females, according to these statistics. For gunshot wounds the most favorable period of life for the operation is from fifteen to twenty years. In disease the most favorable is from five to fifteen years. The form of incision made no essential difference in the mortality. In gunshot injuries 58.82 per cent. gained useful limbs, and in 23.52 per cent. the limbs were worthless. In excision for disease, four hundred and twenty cases recovering

<sup>1</sup> Concluded from page 745.

<sup>2</sup> Excision of the Larger Joints of the Extremities. By H. Culbertson, M. D. Prize Essay. Supplement to Volume XXVII. Transactions of the American Medical Association.

and eleven dying, 14.38 per cent. had "perfect" and 42.45 per cent. useful limbs.

*Excision of the Ankle-Joint.* — Two hundred and eighty-five cases for disease, injury, or deformity are reported, and forty-five for gunshot injury. The mortality is greater in gunshot wounds than in injuries; there is no mortality among the cases of excision for disease and deformity in the "traumatic," non-traumatic, malignant, or syphilitic cases. The author says that "it is evident a large proportion of these excisions result in more or less usefulness of the members."

*Excision of the Shoulder-Joint.* — About a thousand cases are included under this head. A little over 2 per cent. gained perfect limbs in gunshot injuries, and 22 per cent. had useful members. In 1.03 per cent. the extremities were worthless. In the class of injuries 12 per cent. secured perfect results. In disease perfect results were obtained in 9.47 per cent., and 70.52 per cent. were useful, 4.15 per cent. were worthless. A few cases of subperiosteal excision are given, and we find in one case where 4.71 inches of the bone was removed there was but 1.17 of an inch shortening. In a second case where 3.93 inches of bone was excised, there was .75 of an inch shortening only. It is to be regretted that the question of subperiosteal resection is not considered in a special table for all the joints, but we presume the number of these cases were too few to admit of a fair comparison.

*Excision of the Elbow-Joint.* — The most favorable age for excision of this joint for disease was found to be from ten to twenty years. But about five per cent. of the patients died of this operation. A large per cent. gained useful limbs. The results as to usefulness are more satisfactory in the partial than in the complete excision.

*Excision of the Wrist-Joint.* — The single longitudinal incision gave the most favorable results, and the double lateral incision and Lister's modification of the same gained useful members next in order. In disease perfect results were obtained in 7.59 per cent. of the cases, 45.57 per cent. gained useful limbs, and in 24.03 per cent. the members were worthless.

The operation known as Lister's is described in detail, and it will be remembered that in a former report this operation was mentioned as being highly praised by Dr. Otis.

In a report of the sixth congress of the Society of German Surgeons<sup>1</sup> is a discussion on resection of joints, brought out by a paper from Professor Hüter. His general conclusion as regards resection of the foot was that partial resection must be generally practiced in military surgery, but that great caution was necessary in employing it in caries. In regard to the elbow-joint he sums up as follows: (1.) In cases of injury, partial resection is almost always to be performed. (2.) In caries

<sup>1</sup> The London Medical Record, May 15, 1877.

great caution is necessary in undertaking resection, and a decision as to its results in respect to function has yet to be arrived at. Professor Gurlt believed that ankylosis was more frequent in partial resection of this joint. Langenbeck thought that in cases of injury one could not be too conservative; on the other hand, in disease it was very important to remove every portion of diseased bone. A discussion arose as to the propriety of excising or leaving the trochanter in resection of the hip-joint. Dr. Volkmann preferred removing the trochanter, there being liability of ankylosis if the head alone was excised. Dr. Lücke, of Strasburg, made the removal of the trochanter major dependent only on the adequate escape of the secretions of the wound. In young individuals he only partially removed it. Dr. Langenbeck disapproved of the principle of removing the trochanter. Most of the resections were performed on children, and the growth of the bone was interfered with by dividing it below the trochanter. He was not much in favor of long drainage tubes, but they were often necessary in this operation, and he had even introduced them through the acetabulum into the pelvis. Dr. Volkmann also used long drainage tubes. He was of the opinion that the simple removal of the head of the femur had as much influence on the growth of the bone as the division below the trochanter; the femur grew from the lower end. In his cases growth was not arrested, and a useful new joint was more easily obtained by his method, as the sawn surface of the femur, after the excision of the trochanter, came into contact with the acetabulum as if it were a new head of the bone.

In the Boston City Hospital Report,<sup>1</sup> just published, is an interesting account by Dr. D. W. Cheever of a dissection of a newly formed elbow-joint seven years after a subperiosteal excision performed by him. The patient was a boy fourteen years of age at the time of the operation. From the sawn ends of the shafts of the bone had developed “(1.) A new head of the radius. (2.) A new coronoid process firmly attached, a new (rudimentary) olecranon partially attached to the ulna. (3.) A long, powerful hook of bone representing the external condyle of the humerus, and firmly attached to the shaft. (4.) A large, partially detached and irregular bone representing the internal condyle and trochlea. (5.) The articular end of the humerus, trochlea, and lesser head, imperfectly repaired, but in process of bony growth.” All the bone sections in the operation were made in the shafts above the line of the epiphyses. The arm was a very useful one. Two photographs give an excellent idea of the extent of the reproduction of bone.

“*New*” *Operation for opening the Nasal Cavity.*—Mr. Harrison Cripps<sup>2</sup> devised the method for removing sequestra of bone from the

<sup>1</sup> Medical and Surgical Reports of the Boston City Hospital. Second Series. 1877.

<sup>2</sup> Lancet, May 5, 1877.

nose of a syphilitic female aged thirty. The foetid discharge had ulcerated the skin of the lip and made her an object of aversion. The operation is thus described: "The right corner of the upper lip was seized by the operator, and the left by his assistant; by this means the lip was everted and drawn upwards, while the soft parts were separated by a clean sweep of the scalpel, cutting upwards with its edge kept close to the bone. This incision extended from the second bicuspid tooth on the right side to that on the left. By drawing upon the upper lip, the nose, together with the soft parts forming the anterior portion of the face, could be easily raised in such a manner as thoroughly to expose the nasal fossæ. . . . After the removal of the bone, the forefinger could be passed quite back to the posterior wall of the pharynx. . . . There was scarcely any bleeding during the operation." This operation has been described by Ronge,<sup>1</sup> who has performed several; also by Mr. Warrington Howard, Messrs. Pollock and Holmes.

*Rapid Cure of Popliteal Aneurism by Esmarch's Bandage.*—Dr. Thomas Smith, F. R. C. S., reports the case.<sup>2</sup> The patient was a man aged forty-five. The swelling was about the size of a hen's egg, and was of three weeks' duration. "It came of itself." It was increasing pretty rapidly. Pressure on the femoral controlled the pulsations readily, but flexion of the limb did not affect them. There was severe pain at night. After a few days' rest in bed, on March 17th, at three P. M., "the limb was rolled in a flannel bandage from the toes to the lower part of the popliteal space, and again from above the aneurism to the groin. Esmarch's india-rubber bandage was then applied, with only moderate firmness, from the toes to the aneurism, the patient being in bed; he was then made to stand up until the sac was well filled with blood, when the elastic bandage was applied from above the aneurism to the groin, where the limb was surrounded with the thick india-rubber tubing so as completely to arrest the circulation in the limb. The aneurism and popliteal space were thus left exposed, so that the least pulsation in the sac could be detected. In this way the circulation was stopped for one hour, during the last half of which chloroform was used on account of the pain. At the end of the hour, while the patient was still under chloroform, Esmarch's bandage was removed, and the Italian tourniquet was applied to the femoral and maintained in position for two hours." It was finally removed to relieve pain, and the aneurism was found to be diminished in size, and solid. He was discharged April 6th, cured.

A number of cases are reported in this article, most of which were successful; a brief summary of them is given. The indications are to arrest the circulation in the limb and at the same time keep the sac

<sup>1</sup> Diseases of the Nose, Spencer Watson, page 120.

<sup>2</sup> The Lancet, May 26, 1877.

filled with blood. Each operator has used slight modifications of the above. In a previous report we have already quoted some of these cases. We presume that aneurisms of any considerable size would hardly be amenable to this treatment. We should expect more frequently in the latter case a satisfactory result from compression by the Massachusetts General Hospital tourniquet.

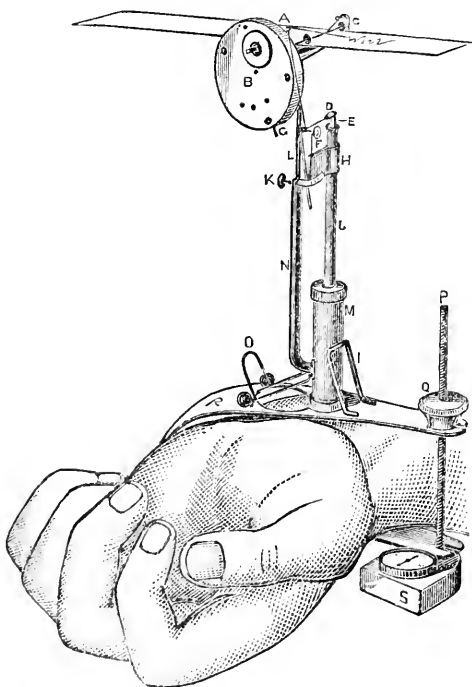
## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

MARCH 31, 1877. Fifty-seven members were present, the president, DR. H. W. WILLIAMS, in the chair.

*A New Sphygmograph.* — DR. E. A. POND, of Rutland, Vermont, showed the instrument, which was simple and compact, meeting the requirements of the physician in his daily practice.

As shown in the cut it consists of an upper and lower tube, the lower tube (M), containing fluid and having a rubber diaphragm stretched on the



lower end, is the part applied to the pulse. The upper and smaller tube (J) fits the larger and lower tube by means of a packing on its inferior end, thus moving freely in and out, and determining at desire the height of the fluid in the small part of the tube. Inside the small part of the tube is a free float (E) made of glass, which rises and falls according to the height of the fluid and obeys any movement of the fluid or any vibration from the rubber cap on the lower end of the instrument. A pendulous, jointed needle (H) clasps on to the upper part of the tube. A watch movement (B) is attached to move the slide on which the trace is to be made. A holder, by means of a sliding bolt, retains the instrument in place over the

artery. A dial (S) shows the amount of pressure used.

*The Metric System.* — DR. T. B. CURTIS read a paper setting forth clearly, at length, the advantages of the metric system in medicine and pharmacy.

A metric chart was presented by Dr. WIGGLESWORTH.

DR. LYMAN asked what had been accomplished toward bringing the metric system of prescribing into general use, a question to which no very definite answer could be given.

In answer to a question from Dr. Weeks, DR. CURTIS said that, no matter what system prevailed, the teaspoon would probably continue to be the popular measure of quantity.

DR. C. P. PUTNAM thought it of importance that the best methods of using the metric system should be known, as well as the disadvantages, and moved that a committee be appointed to investigate the subject and to confer with committees of other societies. Drs. Curtis, Putnam, and Lincoln were appointed.

*Hip Disease.* — DR. E. H. BRADFORD read the following paper on the treatment of hip-joint disease : —

It is an opinion expressed by the greater number of authorities on the subject, that in chronic disease of the hip-joint ankylosis is the best result to be expected. Boeckel, of Strasbourg, in an article published a few years ago, challenged the partisans of any method of treatment to show a single well-marked case of coxalgia cured without ankylosis.<sup>1</sup> Boeckel includes under the head of coxalgia all affections of the hip-joint except traumatic and congenital luxations.

This is substantially the opinion of Vallette<sup>2</sup> and Ollier<sup>3</sup> among French surgeons, although they admit that light cases may recover mobility.

Volkman<sup>4</sup> and Hueter<sup>5</sup> among German writers think that nothing better than ankylosis can be looked for when the articular disease is extensive.

Holmes, Annandale, Bryant, Erichsen, all incline to the opinion that in prolonged disease of the hip-joint nothing better than ankylosis is to be expected. Gross, though in rather more guarded terms, coincides in this belief.

Brodie,<sup>6</sup> looking at the subject from a pathological point of view, judging from autopsies, states that the patient may regain the natural motion of the joint, even though there may be reason to believe that the cartilages have been extensively destroyed.

Bonnet, as is well known, believed in the possibility of a restoration of motion.

Cases of recovery with good motion after severe hip-joint disease have been reported in the monographs and writings of Hugman,<sup>7</sup> Davis,<sup>8</sup> Taylor,<sup>9</sup> Sayre,<sup>10</sup> and Hugh Owen Thomas.<sup>11</sup> This point, however, has not been especially dwelt upon by these writers. It is a noticeable fact that the method of treatment advocated by all the writers mentioned as believing that ankylosis is the best result to be expected in hip disease, is absolute and long-continued rest of the joint.

<sup>1</sup> Archives de Phys., vol. iii., 1870, page 545.

<sup>2</sup> Nouveau Dict. de Méd. et Chir. Article, Coxalgia.

<sup>3</sup> Gaz. hebdomadaire, August 25, 1876.

<sup>4</sup> Klinik der Gelenk-krankheiten.

<sup>5</sup> Billroth and Pitha, ii. 3.

<sup>6</sup> Diseases of Joints, page 107.

<sup>7</sup> On Hip-Joint, 1841.

<sup>8</sup> New Mode of Treating Hip-Joint Disease. New York. 1863.

<sup>9</sup> Mechanical Treatment of Disease of the Hip-Joint.

<sup>10</sup> Orthopædic Surgery.

<sup>11</sup> Hip, Knee, and Ankle.

Bonnet<sup>1</sup> has shown that rest will in time produce in a healthy joint alteration of the fluid of the joint, erosion and thinning of the articular cartilages, and eventually pseudo-ankylosis. Dr. H. G. Davis<sup>2</sup> called attention to this same fact.

Sir James Paget<sup>3</sup> says: "With rest too long maintained the joint becomes and remains stiff, weak, and over sensitive."

Bauer<sup>4</sup> remarks: "Absolute rest of inflamed joints, however beneficial for a time, has likewise its therapeutical restrictions."

If a healthy joint becomes stiff under prolonged rest, it is not strange that a diseased joint does not recover its mobility if it is never moved. To allow motion without increasing or exciting an inflammatory process is an important problem in the treatment of joint disease.

The importance of counteracting the muscular spasm which always exists in the muscles connected with a diseased hip-joint was clearly stated first by Dr. Davis in a paper read before the American Medical Association, in 1863. Barwell,<sup>5</sup> in referring to this, writes as follows: "We have only to prevent the muscular spasm from pressing the two portions of bone together and the disease will decrease. The muscular contraction which pulls the thigh up must be met by another which pulls it down. We cannot nor do we wish to separate the bones, but we can arrange that . . . between the head of the thigh and the acetabulum no more than the normal amount of pressure, perhaps less, may exist."

If this muscular spasm is prevented, it has been found by clinical experience — Davis, Taylor, Sayre, and others — that absolute rest of a joint is needed but for a short time; in some cases, where the inflammatory symptoms are not acute, confinement in bed is not necessary at all, provided mechanical means can be devised to allow motion to take place without interfering with the necessary extension. This indication is fulfilled by the Davis splint, and by others carrying out and perfecting the plan proposed by him of giving "support without pressure and motion without friction."

Through the courtesy of Dr. C. F. Taylor, of New York, Dr. Bradford had been enabled to examine a number of patients on whom the mechanical treatment had been used. The results were remarkably satisfactory. In a number of cases selected from the fact that the evidence of hip-joint disease was unquestionable, and where the disease had lasted for years, and had been attended by suppuration in many cases, it was found on careful examination that there was free motion at the hip-joint (motion given by tilting of the pelvis being, of course excluded) of from twelve degrees to sixty degrees. In two light cases there was complete restoration of motion. One of the severer cases was examined seven years after all symptoms of hip disease had ceased. In one the disease had caused shortening of the affected limb. (Photographs, drawings, and tracings were shown.)

The treatment in these cases was that described in Dr. Taylor's monograph

<sup>1</sup> *Mal. des Artic.*, vol. ii., page 327.

<sup>2</sup> *Transactions of the American Medical Association*, 1863.

<sup>3</sup> *Clinical Lectures and Essays*, page 93.

<sup>4</sup> *Orthopædic Surgery*, page 57.

<sup>5</sup> *On Joint Disease*, page 328.



on the Mechanical Treatment of Hip-Joint Disease. While acute symptoms are present a long extension splint is used, extension being made by connecting adhesive plaster, applied to the limb, to the lower end of the splint, which can be lengthened by a key and ratchet, and counter-extension by a perineal strap fastened to the upper end of the splint. The instrument is so applied that the foot of the affected limb cannot touch the floor, and the other foot is raised by a thickened sole.

When the muscular contractions are completely overcome, and the muscles are thoroughly tired out, but little extension is needed, and an instrument may be used allowing motion at the knee-joint and quite free motion at the hip. This protects the joint from any jar, the patient's weight being borne on the perineal strap when the position is erect, and the instrument being sufficiently long to prevent the patient's heel from striking the ground, though the toe can touch. A jar is in this way borne on the ankle or on the perineal strap.

This instrument should be worn until the joint is entirely free from any articular disease or liability to a recurrence of such disease.

DR. T. B. CURTIS asked by what means the proper time for leaving off all apparatus could be decided.

DR. BRADFORD replied that the splint should be worn as long as any contraction or twitching of the muscles was observed on motion of the hip-joint; that the proper time for its omission must be a matter for judgment in each case.

DR. CURTIS inquired whether in a case where the thigh offered a little resistance to flexion, with perfect symmetry and free motion, Dr. Taylor would consider the result entirely satisfactory.

DR. BRADFORD thought that in such a case absolute freedom from resistance might be attained.

DR. TARBELL asked if Dr. Taylor had given up the steel band encircling the body, which he had previously recommended.

DR. BRADFORD said that he had, and that adduction was gained by means of a splint which pressed upon the opposite thigh.

DR. TARBELL said that the old opinion that ankylosis or death was the invariable result of hip disease was exploded, at least with regard to cases in which suppuration had not occurred, although Boeckel denies the possibility of curing coxalgia without ankylosis.

DR. CURTIS thought that Boeckel would not consider every case of synovial inflammation true coxalgia.

DR. TARBELL was of the opinion that exception must be taken to Boeckel's definition, since it is well known that many cases begin with simple synovial inflammation.

DR. CURTIS thought that there was a difference between regular coxalgia of strumous origin and simple synovial inflammation, and that at present there was little use in argument, since the diagnosis might always be questioned.

*Silicate-of-Potash Bandages.* — DR. T. B. CURTIS showed some specimens of bandages hardened by means of silicate of potash. This material, which is very extensively used in France and Germany for stiffening bandages in cases of fractures, injuries to joints, etc., appears to be little used or known in this

country, as well as in England. It was first introduced in the Paris hospitals about twelve years ago. In 1865 the total yearly consumption of the solution was twenty-two pounds; in 1870 the amount used in the year was eighteen hundred pounds, and in 1875 it had reached six thousand six hundred pounds. It is said to have been repeatedly tried and found unsatisfactory in this city, but, upon inquiry, it appeared that in every instance the sodic silicate was used instead of the potassic salt. The solution of silicate of soda is a very poor stiffening agent, and the failure of silicated bandages so prepared is amply accounted for. Dr. Curtis had experienced some difficulty in obtaining the solution of potassic silicate, as all the druggists seemed to know and keep only the solution of sodic silicate. After some efforts he succeeded in procuring the right solution, which is prepared by Rosengarten and Sons, of Philadelphia, and can be obtained at the drug stores of Metcalf & Co., or of D. G. Wilkins, of this city. It comes in the form of a watery solution, in pound bottles, of which the price is fifty cents. At this price it is needlessly expensive, as the ingredients are very cheap. No doubt the solution could be supplied by the manufacturers at a very much lower price if it were called for in larger quantities than at present.

The silicate of potash has the following advantages: It comes in a solution all ready for use. It is cleanly and agreeable to handle, being readily soluble in water. It dries somewhat more quickly than dextrine. It makes a much stiffer bandage than can be obtained with dextrine; the hardness and stiffness of a light and thin silicated bandage are quite remarkable, as these specimens show. It is very readily removed in a few minutes, as it is only necessary thoroughly to wet the bandage and to unroll it from the limb.

The mode of application is as follows: A dry bandage is first applied, with a little cotton-wool to fill hollows and render the surfaces even. Over this the silicated bandage is applied in several successive layers. The best way to soak the bandage is to unroll it and re-roll it in a basin containing a sufficient quantity of the solution; or Dr. E. J. Forster's roller<sup>1</sup> might be found very convenient for this purpose. Perhaps it would suffice if the solution were applied with a brush, but the roller can be more thoroughly impregnated if re-rolled in the solution, and a harder and stiffer bandage can in this way be obtained. In a word, the solution of potassic silicate is to be used in exactly the same way as a solution of dextrine. Like the dextrine it hardens gradually by drying, but somewhat more rapidly. Like dextrine, however, it remains for some hours soft and flabby. It therefore cannot replace the plaster-of-Paris bandages for certain cases where there is a tendency to displacement; for such cases plaster of Paris is invaluable, inasmuch as by *setting* it acquires in a few minutes a sufficient degree of stiffness to support the injured parts. For all other cases the silicate of potash is the most efficacious and agreeable agent to use.

<sup>1</sup> Described in the JOURNAL, October 7, 1875, page 416.

## THE MEDICAL EXAMINERS.

ON the first of July the coroner system disappears from Massachusetts, and the new plan goes into operation. According to this the duty of viewing bodies and making autopsies devolves on officers known as medical examiners, while the examination of witnesses, etc., is carried on in the courts. We have made no secret of our exultation at the passage of this law, but our feelings of triumph have been tempered with deep anxiety while the names of the future medical examiners were unknown. The interest has centred on Suffolk County, in other words on Boston, where there are to be two such offices, each with a salary of three thousand dollars. As may be imagined great efforts were made to obtain these places, and the candidates presented all degrees of merit and demerit. Some would quickly have dragged the new office down to the level of that of coroner, and, unfortunately, the worst men may have great political influence.

The list of nominations presented to his council by the governor, which we print on the last page of this number, has dispelled our fears. As we write, the time for their confirmation has not arrived, but we doubt not that they will have been approved when this appears. The nomination of Drs. F. W. Draper and F. A. Harris, for Suffolk County, is entirely acceptable. Dr. Draper has been more or less before the public, and has a most enviable reputation. Dr. Harris is probably less generally known, but we have no question of his fitness for the place. The nominations for the State at large are on the whole extremely satisfactory, comprising as they do several distinguished names.

The governor's task in making the selections must have been an eminently arduous and disagreeable one, and he deserves the thanks of the profession, and indeed of the entire community, for the wise and firm way in which he has performed it, acting without fear or favor.

We close this volume of the JOURNAL with the wish that the new system may be a striking contrast to the old.

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MEDICAL REGISTERS.<sup>1</sup>

THE medical registers which have already been published in some half dozen States are justly considered the handiest books on physicians' tables. The amount of labor expended in their preparation is not appreciated; but the blessings showered on these time and labor saving little vade mecum by those who use them show them to be as indispensable in their hands as the city directory, the Farmer's Almanac, or the ever-present Wood and Bache. The fact that it comprises within so small a space so many little details of everything that an intelligent physician can need to know of what is going on around him, but which he cannot afford the time to write over half the State to find out, gives it a special value.

<sup>1</sup> *The Vermont Medical Register for 1877.* By CHARLES P. THAYER, M. D.

*The Medical and Surgical Directory of the State of Iowa.* By CHARLES H. LOTHROP, M. D.

Dr. Thayer, of Burlington, has laid the medical men of Vermont under an obligation by putting such a book as this into their hands. It contains lists of physicians, dentists, and druggists; associations, laws, and ordinances, affecting physicians and others; lists of reliable nurses, and a host of other matters of every-day importance. No professional man in Vermont can do without it.

Unlike our own State, Vermont regards as "regular" many physicians not members of the state society. In Massachusetts we naturally consider that all physicians of honest intention are willing to enroll themselves with an organization comprising the most reliable men of the community, the better to enable them to improve themselves and strengthen their calling. A few are prevented from doing so by poverty, by personal feeling, or by well-meant scruples. We trust that the publication of these registers will call the attention of physicians to the fact that the surest means of confidence in the integrity of a man is his membership of a general society governed by discreet laws and guarded by honest censors.

The decision by a committee (of the best intentioned persons) as to who may be considered "regular" practitioners has always seemed to us unfortunate. The distinction between worthy and unworthy is difficult to make, and may seem in some instances invidious; the names of many worthy men may be omitted, and there is a liability that some questionable names may by mistake be included.

The Medical and Surgical Directory of Iowa, in like manner, satisfactorily supplies a store of information for the physicians of that State. From the multitude of societies shown to exist in Iowa, we are led to believe that her physicians are faithfully striving for advancement. We are confident that they have made rapid strides from the days of the "pioneer practice," which is so admirably touched upon in the pages of the Directory.

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#### MEDICAL NOTES.

— *The British Medical Journal* for May 5, 1877, contains an abstract of the recent Annual Report of the Sanitary Commissioner for the government of India. In the report regarding leprosy in India it is said that there are nearly one hundred thousand lepers in the peninsula of India, or one leper to every eighteen hundred and forty-five persons; while in certain districts, such as Kumaon, in the Himalayas, there is one leper to every three hundred and eighty-eight inhabitants. The report further states that no grounds exist for considering leprosy in the slightest degree contagious, while the strongest evidence points to the influence of hereditability in the propagation of the disease. The malady, even in the communities where it is most prevalent, seems fortunately not to be on the increase. This is accounted for by the presence of a tendency to sterility which appears to be induced by leprosy, and by the great mortality among the children of lepers, — even among such of them as are born before leprosy has manifested itself in the parents.

— During the fifteen years from 1861 to 1875, 15,908 lives have been lost in the coal mines of Great Britain.

— *The Popular Science Monthly* states that Dr. T. L. Phillips writes to the *Chemical News* concerning intestinal calculi, from the presence of which in the large intestine or the cæcum large numbers of horses die annually. These calculi are formed of highly crystalline concentric layers, and attain to eighteen or twenty inches in diameter. When so large as this they press on the walls of the intestine, producing violent pain and inflammation, which sooner or later cause the death of the animal. The calculi consist mostly of the phosphate of magnesia and ammonia, and the writer refers its production to the grain on which the animals are fed. He thinks if salt be added to their food there will be much less liability to the formation of the calculi. The ventilation and drainage of the stables are also matters of importance.

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## BOSTON CITY HOSPITAL.

### SURGICAL CASES OF DR. THORNDIKE.

[REPORTED BY GEORGE W. GAY, M. D.]

*Dislocation of Semilunar Cartilage; Reduction, with Partial Relief.* — Michael W., forty-five years of age, fell on the sidewalk December 9, 1876, striking upon the patella. He entered the hospital six days afterwards, unable to walk or to straighten the limb, but flexion was very good. There was a tender spot on the inner side of the knee-joint, just below the patella. The temperature of the joint was normal and the effusion moderate; patella movable. A small but distinct prominence was felt in the joint just below the internal condyle. By manipulation this body was pressed back into its place, and the motions of the joint were immediately improved. The after-treatment consisted of a ham splint and cooling lotions at first, followed by blisters in the later stages of the affection.

The patient's recovery was slow. He began to walk a little in two weeks, but as the lameness diminished the motions of the joint became more impaired, and at the end of two and a half months there was still some lameness and pain after walking, and also partial ankylosis of the joint.

It seems that this man had received an injury to the same knee twenty years ago, which compelled him to lay up for six months, and, as is so often the case in injuries of this joint, it had never been quite as strong since, and probably never will be again.

In marked contrast with this case was that of a man admitted under the care of Dr. Fifield, in September, with a recent dislocation of a cartilage in the knee-joint. Under ether the projecting substance was reduced by manipulation and pressure, with an audible snap. The motions of the joint, which were limited before the reduction, immediately became normal. He was discharged in four days, with good motion and very little lameness. This man's knee had received no previous injury, and hence he rallied quickly from this one, which was recent and not very severe.

The text-books say very little of this accident being a cause of chronic synovitis, but Dr. Thorndike has seen several cases in which the joint affection was plainly due to this cause. Permanent lameness and even ankylosis may

follow this injury, hence it should receive careful attention in diagnosis and treatment.

*Abscess in the Sheath of the Rectus Abdominis; Seton; Recovery.*—E. M., aged twenty-three years, first noticed a hard, painful swelling at the umbilicus in the middle of November last, which was soon followed by a slight discharge. He was admitted to the hospital December 20th. The probe entered a small sinus at the umbilicus and passed deeply beneath a hard, semi-fluctuating swelling nearly to the pubes, apparently underneath the rectus muscle. The patient had a gonorrhœa five months previous, but had recovered. Had received no injury, and seemed to be in a fair state of health.

January 3, 1877. Patient was etherized and a counter-opening made a short distance above the pubes, and a seton of silk passed through. The cavity of the abscess was found to extend beneath the abdominal muscles, and contained very fetid pus, due to its close proximity to the intestines.

The seton was removed in three weeks, and the abscess was entirely healed in four months, although the patient was instructed to wear an abdominal bandage for some time, to prevent the occurrence of a ventral hernia.

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## LETTER FROM NEW YORK.

MESSRS. EDITORS,—How to prevent charitable institutions from being imposed upon has always been a hard question to solve in cities of any size, and it is not a matter of surprise that New York forms no exception to the rule.

As long as men have to struggle for subsistence there will always be a class, and that not a small one, who seem to make it their business in life to live as much as possible on others. The larger the population of any city, the more voluntary pauperism there will be, and this class is constantly being increased by ill-advised assistance. We no sooner start a new charity than we ask to be protected against this much-encouraged class, the willing pauper. I may shock some of your readers when I express the opinion that we in New York begin to educate the children of the poor for a life of dependence as soon as they are able to go about. As soon as a child is old enough, some kind-hearted but short-sighted lady makes it an "object" for the parents to send the little one to a Sunday-school in the morning; another kind-hearted lady makes it an "object" for the parents to send the same child to another school in the afternoon, so that between the two schools the children of that family get clothed, and perhaps fed; and can you wonder that in time some of these come to consider that they are to be looked after and cared for in this way all their lives?

Then there are dispensaries, where the whole family can go and receive medical attention and medicine, without any questions being asked or any fee demanded. Or if they are more aristocratic and wish the advice of older men, they are welcomed with open arms at the college clinics, and are even thanked for coming. Almost any specialist will treat free and encourage to apply to him a patient who is perfectly able to pay a fair fee.

There have been homes, "guilds," and "dispensaries" started more in the interest of the organized than for the benefit of the needy and suffering.

I know, from a perfectly reliable source, from one who has visited much among the poor in the lower portion of the city, that some of the provisions which were distributed without any questions by a charity so called, to the amount of more than thirty thousand dollars in value, to over fifty thousand persons, have been found in the original packages within half an hour after their receipt, in a liquor store not two blocks from the distributing office. Within the past year the State Board of Charities investigated the workings of a society founded to give aid to the deserving, where almost all the receipts were used up in paying the salaries of the officers.

If we turn to those institutions with which the medical profession is more intimately connected, we meet with abuses which certainly require correction. There are eleven general dispensaries incorporated in the city, besides four eye and ear infirmaries. At the former there were treated last year one hundred and ninety-four thousand in-door patients, and nine thousand nine hundred were visited at their homes, at an expense of two hundred thousand dollars. At the four eye and ear infirmaries there were treated over twenty-one thousand patients at an expense of over seventy-three thousand dollars; making a total of two hundred and twenty-five thousand free patients treated, for whom two hundred and twenty-one thousand dollars were spent. Those who are best informed in regard to the class of patients going to dispensaries state that at least sixty per centum are well able to pay something for medical treatment. In looking over the receipts and expenditures of the different dispensaries for the past year, I find that only three were able to pay expenses; that one ran behind five thousand five hundred dollars, while another had a deficit of thirteen hundred dollars. All the dispensaries taken together exceeded their receipts by over ten thousand dollars. Every patient treated who is able to pay a fee is imposing on the dispensary, and it is just this class that keeps the dispensary in debt. I was recently told that a man, the owner of four tenement houses, was an attendant on a dispensary, receiving advice and medicine gratis, and it is no unusual thing to find that those who come to these places have money laid up in the savings-banks or are keepers of small stores; they are certainly not entitled to gratuitous treatment.

It is at special dispensaries and infirmaries that we find this abuse most prevalent. I know of at least one case, and I have no reason for supposing that it was an unusual one, where a physician sent a patient, who was paying him three dollars a visit, to an eye infirmary for diagnosis and suggestion as to treatment, which it was supposed would be given free, and I have seen patients in the waiting-room who by their dress and appearance denoted that they were far from being in needy circumstances. I have known patients who were attendants on these institutions, when an operation had to be performed, offer to pay a surgeon a good fee for doing it at their homes. Patients of this class have no business to impose upon an institution that is supported by subscription, nor upon the time of the physician. There is a feeling among many that they are conferring a favor on you by allowing you to treat them.

There is a large class between those who are able to pay a full fee to a physician and those who are absolutely destitute, of every grade of comparative comfort or poverty, comprising mechanics, laborers, etc., some of

whom get more than enough to support their families, and who are abundantly able to lay by weekly or monthly a sum of money towards a fund that may be used to provide remuneration to the physician who may take care of them when sick. For this class the subject of starting medical provident associations is being discussed.

The dispensaries cannot go on as they have been doing of late, with constantly increasing demands on their charity, and constantly diminishing receipts; they must protect themselves from being imposed upon. There are now in the city, among certain classes, medical provident associations, not large it is true, but they are found to work well, and provide for those who are members good medical attendance, and for the physician a fair remuneration for his services.

The following is an outline of a plan that is being considered by those interested in dispensaries. Excluding those who are in receipt of more and those who receive less than a certain income, there is a class who may come under the benefits of such an association, each member to pay say ten cents a week for one person, and not more than twenty-five cents for a family, the amount to be paid into the common fund of the association of which they become members. It is contemplated to divide the city into districts comprising a certain number of families who have become members of the association. Connected with this association are a number of physicians, any one of whom may be called upon to attend any one of the subscribers or their families when sick, under certain restrictions: the physician must be called between nine in the morning and six in the evening; obstetrical and night work are not included, for which service an extra fee is demanded. After all expenses of collecting, keeping the books, salary of agent, etc., are paid, the remaining amount is to be divided among the medical officers of the association. In order that the above plan may be successfully carried out, the dispensaries must not only take an active interest, but they must be the organizations through which the work is done. From the record of the patients who apply to these institutions must the list be made for the agent to use in inquiring whether they are entitled to free medical care or whether they should be forced to become members of the provident association. One of the greatest obstacles to any plan to put a stop to the abuse of medical charities is the college clinics. They draw from a class who as a rule are better able to pay than those who attend at dispensaries. They often come from the country to obtain a free medical opinion from some "professor," and they are perfectly able to pay. From what has been said I do not wish to be considered as finding fault with the management of the dispensaries. They are well and economically conducted, better than any other class of charitable institutions. The abuses have been of slow growth, and are of such a nature that it will be impossible to correct them unless by the united action of the managers of all the dispensaries. Most of them have too extensive a district to care for in a proper manner. Whether any plan can be devised to protect the dispensaries, infirmaries, and the medical profession from being imposed upon by the working classes remains to be seen, but that there is an urgent demand for some plan to check the increase of the now too large class of willing paupers is too evident.



## COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 16, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	414	19.99	27.46
Philadelphia	850,856	305	18.64	22.88
Brooklyn	527,830	172	16.94	24.31
Chicago	420,000	117	15.72	20.41
Boston	363,940	108	15.43	23.39
Providence	103,000	40	20.19	18.34
Worcester	52,977	12	11.78	22.00
Lowell	53,678	12	11.61	22.21
Cambridge	51,572	14	14.11	20.54
Fall River	50,370	11	11.35	22.04
Lawrence	37,626	13	17.97	23.32
Lynn	34,524	15	22.59	21.37
Springfield	32,976	3	4.73	19.69
Salem	26,739	7	13.61	23.57

## OBITUARY: JOHN DUNLAP LINCOLN, M. D.

DR. LINCOLN died at his home in Brunswick, Maine, on June 3d, aged fifty-six years. He was the son of Dr. Isaac Lincoln, who commenced practice at Brunswick, some seventy years ago, since when one or both has constantly been there. Dr. John Lincoln graduated at Bowdoin College in 1839, and studied medicine at various schools, taking his degree at the Medical School of Maine, in 1843. He was an excellent practitioner, universally loved and respected. Though favored with a large practice, to which he attended most faithfully, his public spirit induced him to undertake other laborious duties. He was a member of the Superintending School Committee of Brunswick, and of the Board of Overseers of Bowdoin College. The latter office brought him into close contact with the faculty of the Medical School, of which he was a strong friend. He was greatly interested in all public affairs that affected either his State or his town.

Though not very strong he was, as may be inferred, a hard worker, and labored at his profession till the progress of his fatal malady, Addison's disease, made further work impossible. His loss will be mourned by many friends throughout New England, but in Brunswick it is felt as a public calamity.

MEDICAL EXAMINERS NOMINATED BY THE GOVERNOR. — Suffolk County, Frank W. Draper, Francis A. Harris.

Barnstable, George N. Munsell, of Harwich.

Bristol, District No. 1, John R. Bronson, of Attleborough; 2, Silas Presbrey, of Taunton; 3, Jerome Dwelly, of Fall River; 4, Henry Johnson, of New Bedford.

Plymouth, District No. 1, A. Eliot Paine, Brockton; 2, J. C. Gleason, of Rockland; 3, James B. Brewster, of Plymouth; 4, Ebenezer W. Drake, of Middleborough.

Dukes, District No. 2, John B. O'Connell, of Tisbury.

Norfolk, District No. 2, Charles Sturtevant, of Hyde Park; 3, James Morrison, of Quincy; 4, C. C. Tower, of Weymouth; 5, Alexander R. Holmes, of Canton; 8, Robert Amory, of Brookline.

Essex, District No. 1, J. Franklin Dyer, of Gloucester; 2, B. J. Hurd, of Ipswich; 3, George W. Snow, of Newburyport; 4, Sam K. Trull, of Haverhill; 5, William D. Lamb, of Lawrence; 6, R. B. Root, of Georgetown; 9, J. G. Pinkham, of Lynn; 10, C. C. Carleton, of Salem.

Middlesex, District No. 1, J. L. Hildreth, of Cambridge; 2, John L. Sullivan, of Malden; 3, Samuel W. Abbott, of Wakefield; 4, Frederick Winsor, of Winchester; 5, John C. Irish, of Lowell; 6, Henry A. Barrett, of Concord; 7, Alfred Hosmer, of Watertown; 8, E. L. Warren, of Framingham; 9, N. S. Chamberlain, of Marlborough; 10, B. H. Hartwell, of Ayer.

Worcester, District No. 1, James P. Lynde, of Athol ; 2, Ira Russell, of Winchendon ; 3, Alfred Miller, of Fitchburg ; 6, William M. Parker, of Milford ; 8, Cyrus C. Hartwell, of Southbridge ; 9, David W. Hopkins, of Brookfield ; 10, C. W. Whitecomb, of Barre ; 11, J. Marcus Rice, of Worcester.

Franklin, western district, Francis J. Canedy, of Shelburne Falls.

Hampshire, Joseph W. Winslow, of Easthampton.

Hampden, District No. 1, William Holbrook, of Palmer ; 2, Theodore F. Breck, of Springfield ; 3, Lyman L. Tuttle, of Holyoke ; 4, J. H. Waterman, of Westfield.

Berkshire, District No. 1, Henry L. Sabin, of Williamstown ; 2, J. F. A. Adams, of Pittsfield ; 4, Samuel Camp, Great Barrington.

THE following candidates have received the degree of doctor of medicine at the annual Commencement of Harvard College, Wednesday, June 27, 1877 : —

William Appleton.	Uriah Hopkins Holbrook, A. B.
Alonzo Moffitt Avery.	Frank Henry Hooper.
Charles Olney Ballou.	Arthur Chadwick Howard.
Winfred Baxter Bancroft, A. B.	Octavius Thorndike Howe, A. B.
Edward Chauncey Booth, A. B.	Charles Dustin Hunking, A. B.
William Terence Carolin.	Willis Henry Hunt.
Charles Edward Clark, A. B.	William Otis Hunt.
Charles Wendell Cooper, A. M.	Marcello Hutchinson, A. B.
Edwin Francis Cummings.	John Waldo Johnson.
John Clarence Cutter, B. S.	Joseph Ferdinand Lindsey, A. B.
Edwin Alfred Daniels.	Rafael Lopez.
Edward Dyer Ellis, A. B.	John Chester Lyman.
Oliver Hurd Everett, A. B.	Ernest Parker Miller, A. B.
Charles Albert Fairbanks, B. S.	Winthrop Miller, A. B.
John Woodford Farlow, A. B.	Edward Osgood Otis, A. B.
Irving Sylvester Fogg.	Edward Dyer Peters.
John Bernard Foley.	Charles Ashton Place.
Frank Lyman Forsyth.	George Mumford Read.
Charles Foster.	Robert M'Lellan Read.
James Richards Foster.	Maurice Howe Richardson, A. B.
Joseph Everett Garland, A. B.	William Duncan Robertson.
Samuel Middleton Garlick, M. D.	Thomas Pierpont Shaw, A. M., LL. B.
John Chapman Geary.	Chauncey Cooley Sheldon, A. B.
Benedict Fenwick Gorman.	Sheffield Smith.
Lawrence Mirvin Gould.	Charles Parker Spalding, A. B.
Charles Montraville Green, A. B.	John Baker Swift, A. M.
Sewell Elliott Greenwood.	Frank Orland Webber.
Adolphus Birum Gunter.	Charles Augustus Wheaton.
Albinus Otis Hamilton.	William Robbins White, A. B.
John Richard Harrington.	Francis Henry Williams, S. B.
Edward Francis Hodges, A. B., M. D.	

John Coffin Jones Brown, A. B., having died after having fulfilled all the requirements for the degree, it was recommended that his name be placed in the triennial catalogue as having received the degree with the present class.

The thesis of Edward Dyer Peters, on Conditions affecting the Fœtal Pulse, was mentioned with distinction on the Commencement programme.

BOOKS AND PAMPHLETS RECEIVED. — Eighth Annual Report of the State Board of Health of Massachusetts. January, 1877.

A Case of Abdominal Pregnancy treated by Laparotomy. By T. Gaillard Thomas, M. D. Reprint from Vol. I. Gynæcological Transactions. Riverside Press. 1876.

The Prophylactic Treatment of Placenta Prævia. By T. Gaillard Thomas, M. D. Reprinted from the American Practitioner, May, 1877.

A Lost Art in Surgery. By A. B. Crosby, A. M., M. D. Reprinted from the Archives of Clinical Surgery, May, 1877.





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